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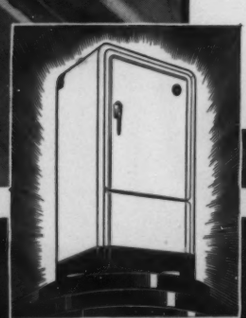

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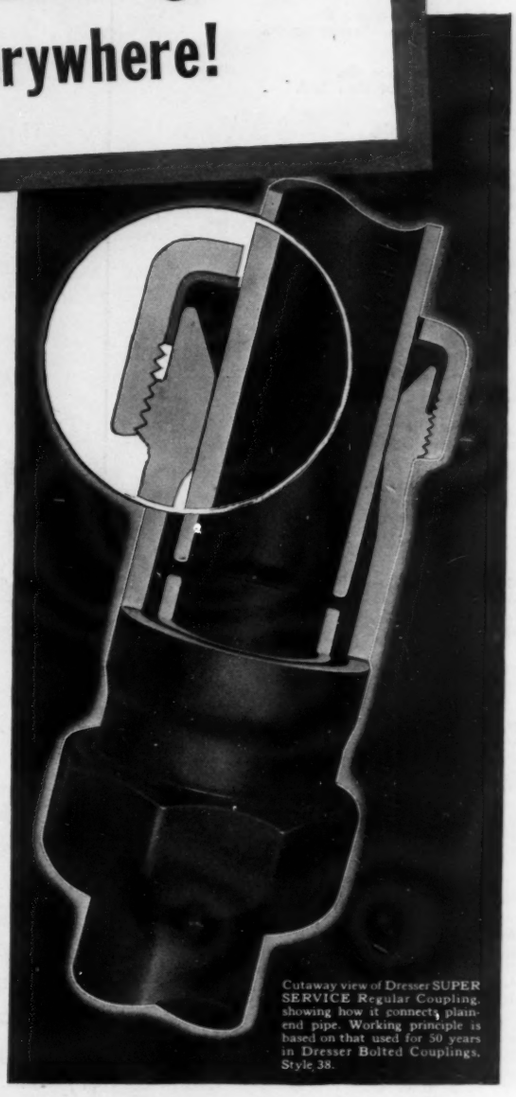
*Dresser SUPER SERVICE Fittings, Style 90, are available in Regular Couplings (5" body), Long Couplings (10" body), 45° and 90° Regular Ells, Plain-end and Threaded-end 90° Street Ells and Street Tees; sizes: ¾" ID to 2" ID, inclusive.

**Gaskets used in SUPER SERVICE Fittings, Style 90, are same shape as those in famous Dresser Bolted Couplings, Style 38. Can be supplied in plain Grade 27, plain Grade 29, Armored Grade 27, duck-tipped Grade 27, and lead-tipped Grade 27.



Cutaway view of Dresser SUPER SERVICE Regular Coupling, showing how it connects plain-end pipe. Working principle is based on that used for 50 years in Dresser Bolted Couplings, Style 38.

Dresser SUPER SERVICE Fittings

(Style 90)

ADVERTISERS' INDEX

American Brass Co. 6
American Meter Co. 10
American Stove Co. ..

Barber-Greene 68
H. R. Basford Co. 64
Blaw-Knox Co. ..

The Cast Iron Pipe Research Ass'n. 7
The Chaplin-Fulton Manufacturing Co. 62
Chicago Vitreous Enamel Product Co. 37
Clark Hotel ..
The Cleveland Trencher Co. ..
Columbia Gas & Electric Corp. 67
Condensation Engineering Corp. 52
Connelly Iron Sponge & Governor Co. 64
The Cooper-Bessemer Corp. ..
Crane Co. 71
Cribben & Sexton Co. 8

Dearborn Chemical Co. 68
Detroit-Michigan Stove Co. ..
S. R. Dresser Manufacturing Co. 1

Electrogas Furnace Co. 66
Ensign Carburetor Co., Ltd. 56

Fraser Furnace Co. 64

General Controls 66
General Gas Light Co. 3, 50, 51
James Graham Manufacturing Co. 35
Greenlee Tool Co. 73

Handbook, Butane-Propane Gases, 2nd Edition 60
H-M Thermo Control Co. ..
Homestead Heater Co. 74
Hotel Chelsea 66
Hydrauger Corp., Ltd. ..

Inland Manufacturing Co. 65
International Nickel Co., Inc. ..

Johns-Manville 45
Johnson Gas Appliance Co. 72

Kerotest Manufacturing Co. 60
Kitson Co. 66

P. M. Lattner Mfg. Co. 65

Merco Nordstrom Valve Co. 41, 42
Milwaukee Gas Specialty Co. 61
L. J. Mueller Furnace Co. 68
Mueller Co. 3rd Cover

The National Supply Co. 5
National Tube Co. ..

Pacific Coast Gas Association, Inc. 57
Pacific Gas and Electric Co. 55
Pacific Gas Radiator Co. 54
Pacific Meter Works 10
Parkhill-Wade ..
Payne Furnace & Supply Co. 49
Pittsburgh Equitable Meter Co. Front Cover, 71
Porcelain Enamel Institute 72
Pressed Steel Tank Co. 61

Quigley Co., Inc. ..

Reliance Regulator Corp. 58
Reynolds Gas Regulator Co. 69
Robertshaw Thermostat Co. 35
George D. Roper Corp. 30
Royal Air Conditioning Equip. Co. 74

Semet-Solvay Engineering Corp. 4
Servel, Inc., Electrolux Sales Div. 2nd Cover
Sharples Solvents Corp. ..
M. B. Skinner Co. ..
Spencer Thermostat Co. 47
The Sprague Meter Co. 4th Cover
Standard Oil Co. of California 73
Stevens Hotel 70

United States Pipe & Foundry Co. 67
United States Steel Corp. ..

Ward Heater Co., Ltd. 38, 39
Webster Engineering Co. 53
Welsbach Co. 63
Worthington Pump & Machinery Corp. ..

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Contents for August, 1938

GUEST EDITORIAL: "CP" Range—Responsibility! Opportunity! . . . 9
By F. M. Houston

Thermally Thinking . . . . . *By Stanley Jenks* 11

The "CP" Range—What It Is—What It Will Do 13

The "CP" Gas Range at a Glance 15

Comparison Table of the New "CP" Range Requirements and the Previous American Gas Association Standards 16

The "CP" Range—Telling its Story 17

The "CP" Range—A Clean Parting with the Past! . *By A. F. Rice* 18

The "CP" Range—Ideal Ammunition for Salesmen! . *By R. A. Koehler* 19

A Knowledge of Climate Conditions Is Essential for Satisfactory Summer Air Conditioning . . . . . *By Carl H. Dean* 20

G A S Camera 21

Auditing Public Relations . . . . . *By R. E. Fisher* 22

ABSTRACTS BY THE STAFF:

The Phosphate Process for the Removal of Hydrogen Sulfide from Natural Gas . . . . . *By T. W. Rosebaugh* 24

Soft Metal Melting Through Gas Immersion Heating 26
By Elmer B. Dunkak

How to Keep Commercial Kitchens Up-to-Date . *By C. H. French* 27

What Will a Wife Tell Her Husband about Gas Service? 29
By Davis M. DeBard

BUTANE-PROPANE NEWS 59

A Mid-West Oil Company Uses Butane to Air Condition Field Offices . . . . . *By J. C. Albright* 59

JAY JENKINS, Publisher — STANLEY JENKS, Editor
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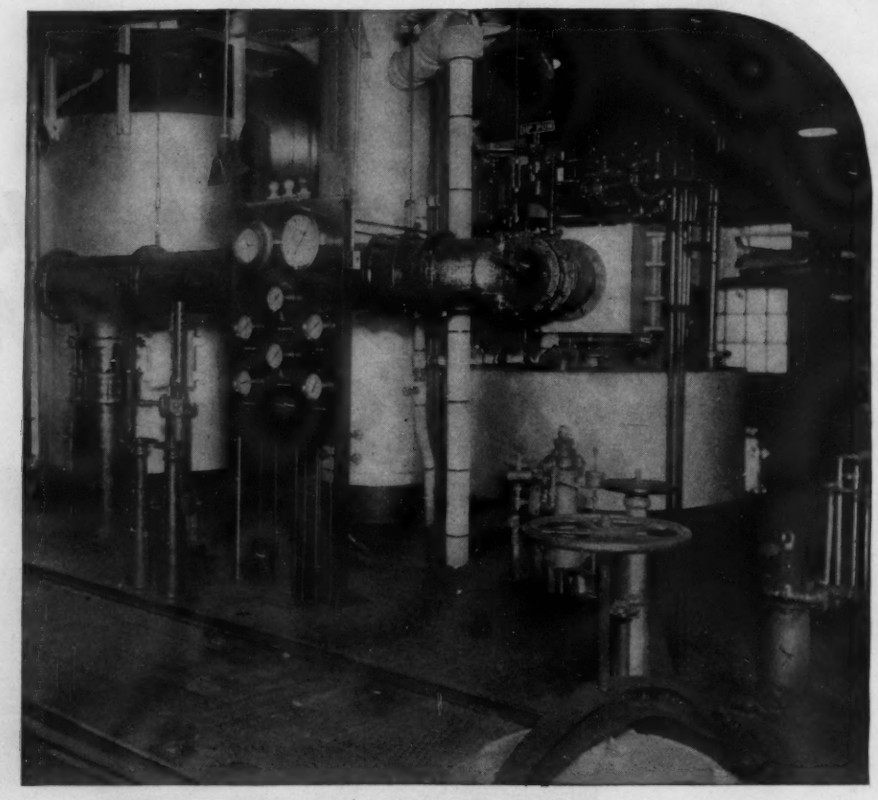

THE second Semet-Solvay Reverse Flow Water Gas installation to go into service was an 8-ft. machine, with backrun, located in New England and rebuilt for the process. This was the first machine of this type to be equipped for heavy oil enrichment and reforming.

The tabulations at the right give the averages of operating results, calculated from two different periods.

We confidently believe, from the versatility shown by the Reverse Flow Water Gas process to date, that it is destined to replace so-called "standard" operation. Reverse Flow improves results in numerous ways to achieve economies and reduce costs. It will pay you to investigate its benefits for your own plant.

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31	Number of Days of Operation	14
6 hr. 18 min.	Average Operating Hours per Day	8 hr. 4 min.
102,960	Average Total Make Cu. Ft. per Hour	89,670
28.98	Fuel Average—Pounds per M. C. F.—100 Percent Coke	15.25
2.72	Oil Average—Gallons per M. C. F.	4.87
534	Average B.T.U. Finished Gas	534

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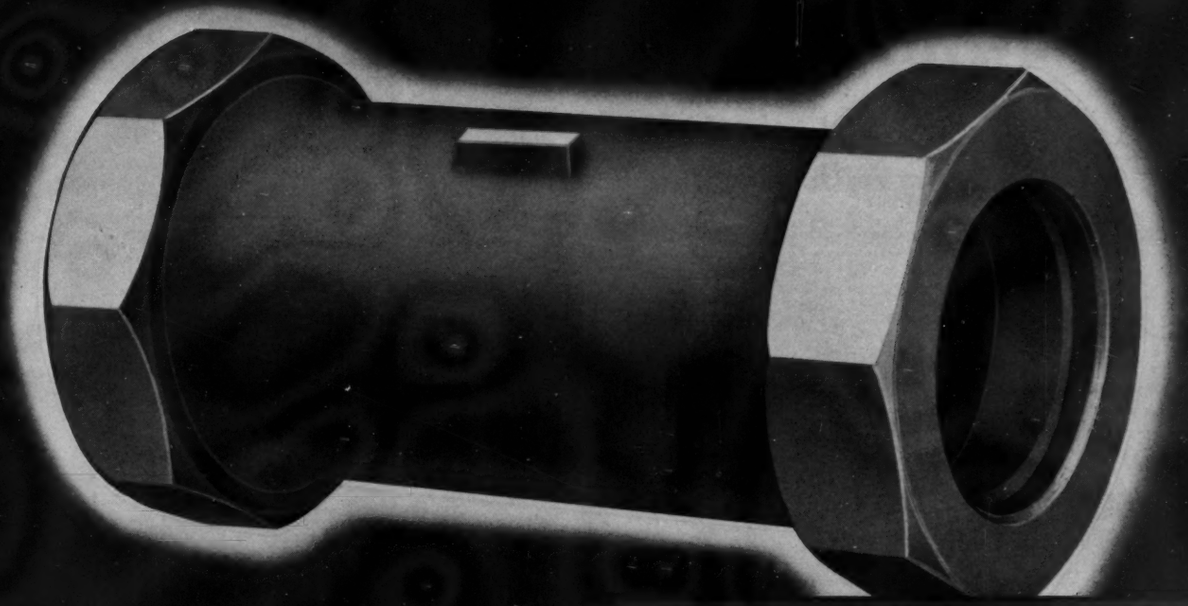

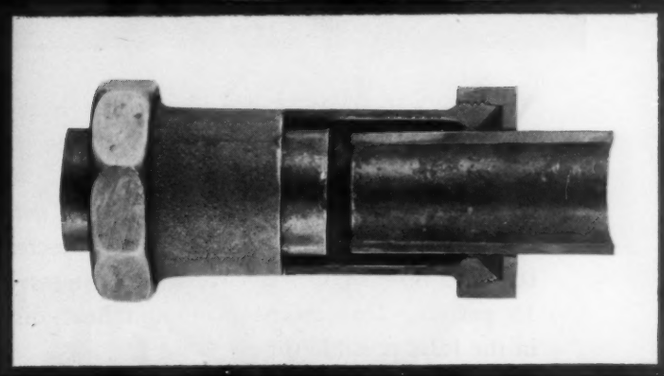

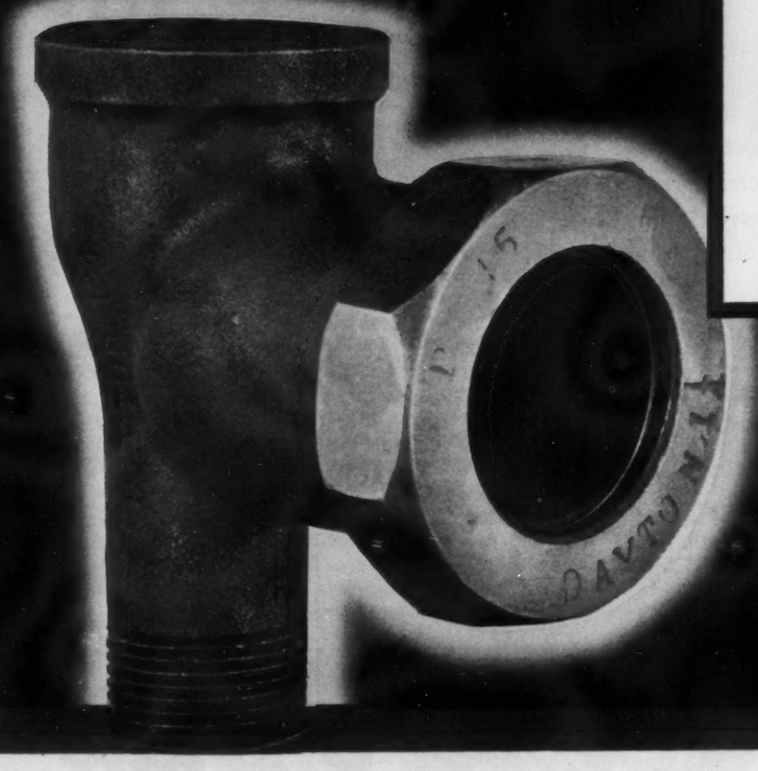

Dayton pioneered the design of Boltless Couplings and Compression Type Fittings using the conventional wedge type gaskets. Their extensive use by the industry is proof of their practicability.

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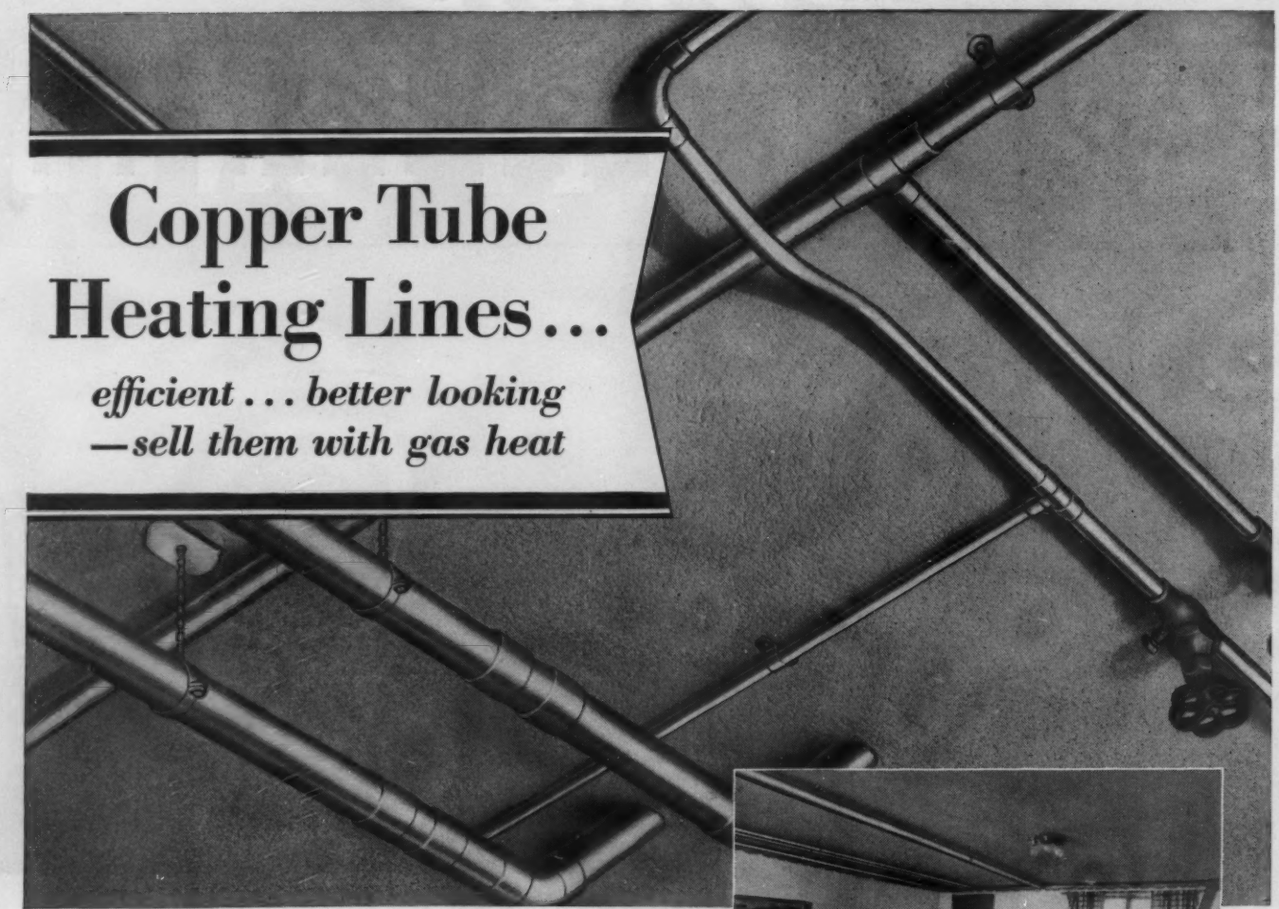

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YOUR CUSTOMERS considering gas heat will appreciate the low first cost, high efficiency and neat appearance of copper tubes for hot water heating lines. *With smooth inside surfaces, and assembled with obstructionless solder-type fittings,* copper tubes decrease resistance to flow in forced circulation systems by 10 to 15 percent. This means maximum heat distribution in the least possible time.

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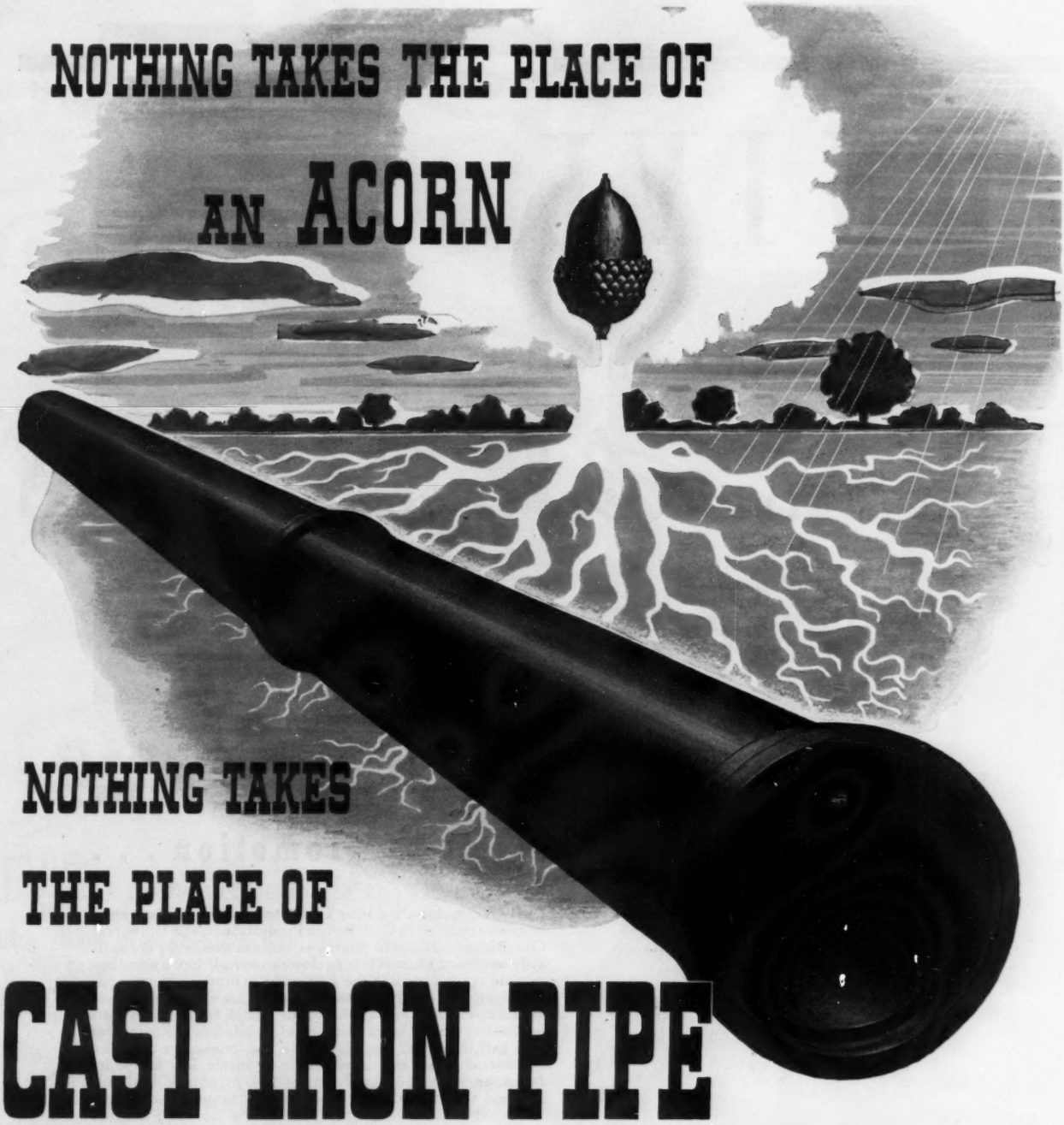
NOTHING TAKES THE PLACE OF AN ACORN



NOTHING TAKES THE PLACE OF CAST IRON PIPE

OAK TREES grow from acorns—and *nothing else.* The vast system of cast iron underground mains in America is the outgrowth of a water main constructed in France 274 years ago with cast iron pipe and still in service. *Nothing else,* before or since, has demonstrated equal economy and long life as a material for underground mains.

If you want proved long life and low maintenance cost that result from effective resistance to corrosion—assured safety margins for impact, beam load and crushing stresses—and permanently tight joints—then you will agree that *nothing takes the place of cast iron pipe.* Some materials meet some of these requirements but only cast iron pipe meets them all.

Look for the "Q-Check" registered trade mark. Cast iron pipe is made in diameters from 1¼ to 84 inches.

THE STANDARD MATERIAL FOR UNDERGROUND MAINS

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The Sales Personnel . . .
The Program . . .

best fitted to meet the exacting requirements of (cp) promotion . . .

Universal presents a plus factor to the Utility Company in connection with C. P. Range Promotion . . . The Universal Gas Range now, as in years past, offers the highest available standard of cooking performance . . . It has up-to-the-minute styling, and is the last word in modern range construction . . . The Universal salesmen by virtue of extensive experience are qualified to assist in training and educating utility sales personnel to adequately interpret and sell the C. P. Gas Range to the consumer . . . The Universal sales and advertising program has for years been based upon the fundamental principle that gas utilized through a truly modern gas range embodying the most advanced devices, renders a cooking service that establishes a new and higher standard of performance . . . Thus by virtue of the range—the sales personnel—and the sales program, Universal is more than qualified to actively and intelligently cooperate with the gas utility industry in connection with C. P. Range promotion.

UNIVERSAL

THE PLUS (cp) RANGE

UNIVERSAL GAS RANGES

MANUFACTURED BY CRIBBEN & SEXTON CO., 700 NORTH SACRAMENTO BOULEVARD, CHICAGO, ILLINOIS

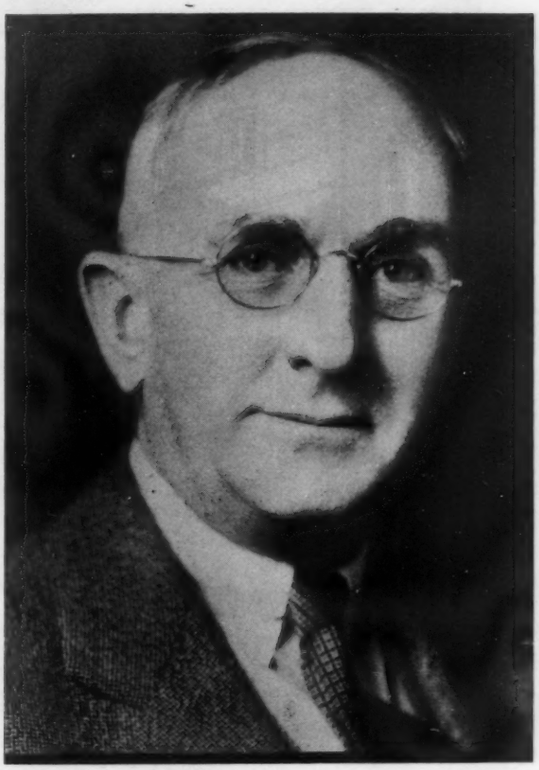
GAS
August, 1938

Guest Editorial

"CP" Range

Responsibility! Opportunity!

By F. M. HOUSTON
Chairman, American Gas Association
Domestic Range Committee



THE Gas Industry has a grave responsibility in the promotion of the Certified Performance Range and this responsibility does not rest on the sales department alone, but on the production, distribution, accounting, purchasing, and every other branch of the industry.

For the first time an entire industry can unite on a national promotion that will educate our customers as to the value of gas as a fuel when properly interpreted by the proper appliance.

For the first time the Gas Industry has a cooking appliance that sets up new standards of cooking performance, convenience, and economy which are the newest and latest, and higher than anything ever before attempted by any fuel, and **guarantees** to deliver them.

For the first time the Gas Industry has the advantage over other types of fuel.

For the first time the Gas Industry has an exciting and convincing sales story to tell.

. . . So we repeat, **the Gas Industry has a grave responsibility!**

And as the Gas Industry has a grave responsibility, so it also has a **great opportunity!**

An opportunity to place gas on the offensive, rather than the defensive.

An opportunity to unite an industry for a common cause.

An opportunity to increase the publicity for gas cookery.

An opportunity to speed up the replacement of obsolete ranges.

An opportunity to improve standards for all gas ranges.

An opportunity for **more range sales for more money!**

An opportunity for **more fuel sales for better satisfied customers!**

Certainly, no gas man can afford to sit passively by and let this big opportunity slide.

. . . So again we repeat, the Gas Industry has **a grave responsibility** and **a great opportunity!**

A MODERN METER WELCOMES THE C.P. STANDARD

★ THE AMERICAN gas meter . . . hidden away in the background of smooth, efficient gas service . . . is quietly doing an essential job with scientific thoroughness.

Today's AMERICAN meter that goes into the smallest dwelling has been perfected over the years to the high degree of accuracy and serviceability of those AMERICAN meters employed by the country's leading industrial plants and research laboratories.

Gas measurement has become an exact science. The AMERICAN meter is an instrument of precision . . . its accuracy, painstakingly maintained, protects gas company and consumer alike. A worthy companion to the perfected appliances which under the C. P. trade-mark will make history in the effective utilization of gas as a fuel.

AMERICAN METER CO. INC.
ESTABLISHED 1836
GENERAL OFFICES, NEW YORK, N. Y.

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GAS

FOURTEENTH YEAR OF PUBLICATION

Thermally Thinking

By Stanley Jenks

Editor

The Gas Industry Plays Its Ace

For those of us, who have been attending gas industry sales conferences these many years, it has been no uncommon experience to hear ourselves branded as laggards in the merchandising marts. Some have accused us of having a definite inferiority complex, a woeful hesitancy if you please, in pushing the qualities and capabilities of gas service. Others, and all with constructive intent, have told us that our more enterprising opponents in today's "Battle of the Fuels" have run rings around us. In brief, according to our critics, the birds have nested in our whiskers and hoary cobwebs have draped our sales brains.

These critics have their answer in the "CP" gas range, the latest miracle in the gas industry's development and which makes its official bow this month. All honors to these gas utility men and manufacturers, who had the vision to conceive the "CP" gas range, the skill to produce it and the enterprise to present it this month to an American public that needs it.

Other writers in this issue of GAS discuss eloquently and adequately its place in the gas industry's picture. Frank M. Houston, our guest editor and chairman of the A.G.A. Domestic range committee sponsoring the promotion of the "CP" Range, addresses a timely message, on a preceding page, to his fellow gas sales executives on whose broad shoulders rests the immediate success of the "CP" gas range. It is clearly recognized by the sponsors that there must be a whole-hearted acceptance of the "CP" Range within the industry before it can gain that local sales momentum, the sum of which, is the measure of the chips the industry will gain as a whole by playing its ace now.

Other utility sales executives, A. F. Rice, manager of Market Development for the Southern California Gas Co., and Robert A. Koehler, Public Service Electric and Gas Co., Newark, N. J., both outstanding men in the gas appliance and sales promotional field, in short, trenchant articles, tell of the "CP" gas range as they see it in their respective fields.

GAS this month is a "CP" sales manual in every sense of the word. "CP" specifications have been translated into sales points, customer values and product information, making "CP" as simple as A, B, C. For, as I said earlier, if the immediate success of "CP" lies with our local sales managements, its final destiny is in the hands of those men and women, who pound the pavements right there on the firing line, selling the superiority of gas for cooking and other uses to an American public, which will inevitably accept the "CP" gas range once it understands its merits, unmatched by any other cooking appliance or fuel.

Executive Policy

It would be presumptuous to suggest more than a thought to gas company managements in the formulation of "CP" gas range policies. The possibility of increasing servicing costs might be a deterrent to whole-hearted participation in the "CP" program. Nobody knows if such will result, for there are no field operating facts available. Only rumors, and until the facts are available, progressive management has no other alternative but to find out by actual experience. But suppose it does add a slight expense, and that is taking the pessimistic viewpoint, the gas industry, like other industries have and are doing to be truly progressive, must never hesitate to provide its customers with whatever is best for the customer. The customer's ultimate welfare is the keystone of progressive management.

My thought is that gas executives will get all the facts locally by actual field test, study the problem in long range perspective, and at this stage, recognize the cooperation due those manufacturers whose enterprise has made the "CP" gas range an actuality.

The "CP" Range and the Dealer

There is much to say about the dealer as a sales aid in the promotion of "CP," so rather than dismiss the dealer as a factor of little importance in the "CP" range picture, let us recall some of our experiences in the early days of the oven regulator. It was a new gadget and a strange device to women, who were then and still are loath to accept changes in established home-making practices. They had to be patiently schooled by the utilities and manufacturers to accept it. The full responsibility for this fell on

gas company sales departments. In the meantime, dealers, and who can condemn them, followed their regular practice of meeting public demand and continued to sell non-regulated oven ranges, until the day dawned when Mrs. John Q. Public recognized without any qualms or further argument that the oven regulator was a boon to her. As soon as she began to ask her dealer for an oven regulated range, the dealer began to sell them. I predict a similar experience with the "CP" gas range. The dealer will continue to follow public demand, and the sooner the local gas company creates this demand, the sooner will "CP" ranges be endorsed and pushed by dealers in its territory. There can be no buck-passing on this point. It is clearly up to the gas company.

The Service Man's Attitude

There is no feature on the "CP" gas range that at some place or other, has not had successful field experience. The "CP" gas range merely embodies in one range, 22 points of superiority that were scattered throughout the gas range industry and never before available in any one gas range.

Let me suggest to those service men who are inclined to look sideways at the "CP" gas range, that other service departments can and have whipped every problem that any "CP" innovation presents.

Service departments, like all other departments, have their share of men who can't see beyond the departmental door. To give credit where credit is due, and much is really due to our skilled service men, it is hard to imagine that the men who took the headaches in the early days of refrigeration, water heating and central heating will not prove the same willing cooperators. They will take the "CP" range, apply it to local operating conditions and make it perform to the glory and advancement of their own company and the industry which had the vision to produce it.

Taxpayers All

The non-taxpayer is non-existent, and the truth of this was never more aptly expressed than when the *San Francisco Chronicle* made the following comments in connection with the rate reduction for natural gas earlier this year, representing an estimated saving of $2,000,000 annually for natural gas customers in northern California.

> "If it were not for certain increased taxes on gas companies . . . the saving could have been $1,000,000 more," said the *Chronicle*. "This particular illustration is important merely because it happens to be publicly and officially certified. Practically, the consumers of gas are so numerous that this particular tax passed on to them will amount to very little on any individual bill. But the point is that it is passed on, and that in the case of a public utility the laws of the state require it to be passed on. In other cases the even more immutable laws of economics pass it on. So every consumer of gas or electricity is a taxpayer even if he never sees a tax collector or personally signs a tax check. . . .
>
> "We are all taxpayers. What some of us lack is tax consciousness. We think the man who signs the check pays the tax, and that it makes no difference to the 'non-taxpayer' how high the taxes are. If this 'non-taxpayer' realized that he paid those taxes himself, he might care.
>
> "Half the cost of cigarettes, more than half the cost of liquor, a large part of the cost of food, shelter, clothing and everything else—this is the tribute inexorably demanded by the tax collector. His unseen shadow falls over every commercial transaction, whether it involves a nickel or a million dollars. And you, the consumer, the eater of food, and the wearer of clothing, eventually pay the bill, and in full. No one, unless he be a hermit who never leaves his cave in a remote hill, is a 'non-taxpayer.' "

Uncle Sam and his tax-levying nephews have recognized the public utilities as a prolific source for taxes, due to the ease of collection and the painlessness through indirection, as far as the public is concerned. Witness the fact that the public utilities' tax burden in 1937 was more than $350,000,000 compared with a mere $13,000,000 in 1912, or in percentage of gross income, 16 per cent as against five per cent.

The point arises, whether the public would really stand for it if they only knew the true state of affairs.

Visualized Selling

Last month, I told you about the Warner Bros. latest Hollywood opus entitled "White Banners" and its particular merit in explaining and praising gas refrigeration. Have you seen the picture yet? If you have, I'd appreciate it if you would drop me a line giving me your opinion. I am anxious to learn whether you think I was too enthusiastic about it. But, here is something about another movie I saw the other day, and it is different from "White Banners" in that it was definitely produced to sell a product. It is Johns-Manville's film "Those Hot Summer Days." Frank Conners of the Johns-Manville Sales Promotional department gave me a special showing of it in the company's New York office. It is a talkie, professionally produced and acted, to show to selected prospects. I never saw a more interesting film of its kind, which is frankly sales promotional. It took 33 minutes to run by my watch. It tells a very effective story of the need, comfort and economy of proper home insulation, and very few have a greater stake in the successful propagation of this insulation story than the gas man.

According to Mr. Conners, the film is shown at least 25 times a day throughout the country by Johns-Manville men who have 58 prints of the movie and projectors. It is shown before Rotary, church and other organizations, and often the salesmen show it in private homes before groups of three or four people. It is most interesting to learn that of these showings in private homes, the records show that one out of two result in a sale. The shows before organizations develop prospects.

And so another ally for gas heating is doing yeoman service for us in the field.

Correction

Of course, Mr. Beebee of Rochester, N. Y., never wrote anything so ridiculous as I quoted him last month when I said that he said "The output of an electric range is a function of the square **root** (sic) of the voltage," etc. It wasn't either the heat or the humidity when I grabbed the word "root" and for no apparent reason inserted it in what was otherwise a true statement. It was just sheer unexplainable carelessness on my part, and in asking Mr. Beebee to overlook the error, I wish to thank Guy Corfield of the Southern California Gas Company for first calling it to my attention.

The "CP" Range

What It Is—What It Will Do!

Q. What is a "CP" Range?

A. The initials, "CP," are applied to those gas ranges, which by actual laboratory test, embody 22 points of superiority, never before available all at the same time in any one gas range. "CP" stands for Certified Performance.

Q. How can a "CP" Range be recognized?

A. By a distinctive seal consisting of the black letters "CP" in a circle on a white background which is found only on those gas ranges which comply with the "CP" Range specifications. The "CP" seal is the property of the Association of Gas Appliance and Equipment Manufacturers and cannot be owned by any one manufacturing company.

Q. Who makes the "CP" Range?

A. Eighteen of the leading gas range manufacturers, at great expense, have produced and have available "CP" Ranges for the industry.

Q. Why the "CP" Range?

A. Cooking is the gas industry's basic load, upon which all its other services are predicated. Gas is undoubtedly the best fuel for cooking, but it is what the public *thinks*, and not what we in the gas industry know about gas for cooking, that determines our hold on this business. No fuel is any better than the equipment through which it is used. An old, obsolete gas range is a bad advertisement for cooking with gas. The "CP" gas range is a super-gas range, the best cooking appliance ever built. It is designed to establish beyond any possible doubt in the public mind, the superiority of gas in the kitchen for cooking.

Q. Is it more expensive than other models?

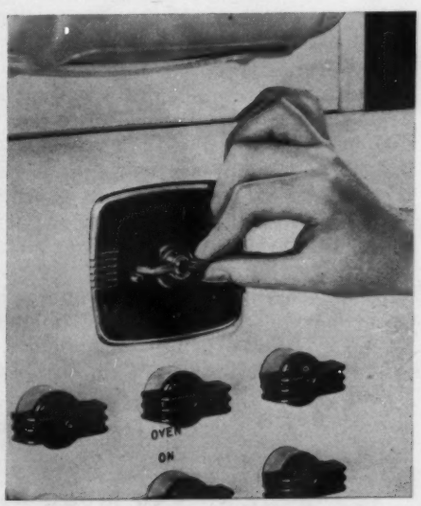
A. Absolutely No! As we shall see when we consider the savings it effects. In fact, the saving in cost of operation and food spoilage alone will more than pay for the "CP" Range during its long and useful life.

Q. What savings can I expect from a "CP" Gas Range?

A. There are two ways to save money while cooking. (1) Use less gas. (2) Spoil less food and get better results from less expensive foods. The "CP" gas range guarantees to do both. If you do the same amount of cooking on a "CP" gas range as you do on your present gas range, you will use less gas, because the manufacturers to earn the "CP" seal have designed top, oven and broiler burners, which by actual laboratory test will do the job with easily one third less gas, in comparison with most gas ranges generally in use today. Many thousands of dollars have been spent in designing and constructing "CP" gas range burners. They are indeed the last word in burning efficiency.

Q. But just how much better are "CP" Range burners?

A. That, of course, depends on your present gas range, which undoubtedly was a very good one when you got it. But, as in the case of automobiles, radios and refrigerators, gas engineers and scientific researchers have developed improvements in gas burners, and these improvements together with other fuel-saving features have never before been built all at the same time in any one gas range, until the "CP" range was produced. It is claimed that with the "CP" Range you can do half as much again, cooking with the same amount of gas you are now using if yours is an old or average gas range.



The "CP" automatic lighter lights all burners, top, oven, and broiler at the turn of the tap. A modern automatic "CP" convenience.

Q. Is it only the burner in a "CP" Gas Range that is better?

A. No. The burner is improved, of course, but with it there are other improvements that make it better still. The arrangement of the grid with the top burners, and the design and the construction of the oven and broiler have been scientifically worked out to conserve heat and thereby make it possible to cook with much greater economy.

Q. The oven doesn't look any different to me. How has it been improved?

A. The oven is much different. Already the fastest fuel available, gas is even faster now in what we call the "speed oven" on the "CP" Range. Much heavier insulation on the oven keeps more heat in the oven and does two things. (1) You can cook faster with less gas, and (2) less heat gets into the kitchen and the kitchen is much cooler. Actual tests show that the "CP" oven will heat up to 500° in about half the time required of ovens under former standards. That's real speed and economy.

Q. What savings can you claim for the broiler?

A. In gas use, about the same as for the oven. This is due to heavier insulation, better burner design and some unique features of the broiler itself. For example, in the "CP" broiler, there is 43 per cent more effective broiling area, which in itself means more food can be broiled with less gas. The "CP" broiler heats up to 600°, the proper broiling temperature, five minutes quicker than broilers of even less than a year ago. Also, smokeless broiler pans are required in "CP" Ranges to drain the greases away from the heat zone, preventing "grease fires" in the broiler which formerly caused overdone and unpalatable food. This is a real food saver.

"CP" oven regulators are accurate, making oven cooking carefree. No guesswork in "CP" oven cookery.

Q. Is economy all that the "CP" Gas Range has to offer?

A. By no means. The "CP" Range offers you a convenience and a comfort available in cooking, that was never before possible.

Q. The "CP" Gas Range looks like any other modern gas range. What is there more convenient about it?

A. Well! Let's take the controls, which are put on gas ranges to make cooking easier and results surer. All burners—top, oven and broiler—are lighted automatically. You just turn the handle and instant heat is available. No matches, no stooping, no groping inside ovens and broilers. In fact, you don't even have to open the oven or broiler doors to light the burners. This feature, with the oven temperature regulator makes the "CP" Range completely automatic. The only responsibility of the cook is the proper quality and quantity of the ingredients in the recipe. Everything else, the amount of heat and the time of cooking is measured accurately and automatically on a "CP" range, thanks to the reliable controls with which it is equipped.

Q. But, except for the automatic oven lighting, haven't I all these features on my present range?

A. It is hardly probable, for automatic oven lighting is only one of the 22 points of "CP" superiority, many of which, are concerned with added convenience, which really means in practice, less work to get the same or better results. You are proud of your kitchen's spotlessness. "CP" burners are so designed that pots and pans after use still have their mirror-like finish, and need not be scrubbed and scoured. All top burners either have an enamel finish or are made of rust-resisting metal to save you time and effort in keeping your range as you want it—bright and spotlessly clean. The oven vent is designed to keep the food vapor laden air away from your kitchen wall, eliminating wall stains and the work of cleaning them off. The broiler, because it is smokeless, prevents burned greasy vapors from besmearing the kitchen and everything that's in it. Such is the convenient benefit of a "CP" Range. It means considerably less work in the kitchen.

Q. Where's the improved comfort from a "CP" Gas Range?

A. The greatest discomfort in cooking comes from an over-heated kitchen, especially in summertime. The "CP" Range, with its hi-speed and simmer top burners, its heavily insulated ovens and broiler, and its general design to conserve all the heat possible for the food itself, throws far less heat into the kitchen than any other type of cooking equipment on the market today. For example, such are the requirements of a "CP" oven that if you are cooking in a kitchen, the temperature of which is 70°, and your oven is baking for you at 500°, the outside temperature of the oven itself would only be 145°, low enough to be scarcely noticed. This is really a remarkable feat of heat conservation to produce a cooler kitchen while cooking. Another comfort is the care-free cooking that is possible with a "CP" Range.

Q. How is the "CP" Gas Range faster?

A. The oven and broiler are faster because more heat is held in them due to heavier insulation and better design. The oven will heat up to 500° in about half the time required of ranges of former standard, and you can attain 350°, the regular baking temperature in six minutes. No other controlled fuel can even begin to approach this. The broiler will heat up to 600° in one-fourth less time than previously and is five minutes quicker than in gas ranges of even less than a year ago. Every "CP" Range has one or more hi-speed top burners. They are the fastest burners available on any type of cooking equipment. There is more heat instantly available in one hi-speed "CP" burner than can be produced instantly by all the top burners combined on any domestic electric range. And the heat available is far more flexible.

Q. What do you mean by "Flexible"?

A. As you know, with a gas burner you have your choice of any degree of heat you need and are not limited to three to five set temperatures. One of the most desirable features of the "CP" gas range is that with these all speed dual purpose burners for simmering, waterless or heavy duty cooking, food can simmer for hours or boil in a few minutes with the one burner by merely adjusting the handle. This is a convenience that only gas offers and which has reached its highest development in the "CP" gas range. Similar flexibility and range of temperatures are available in the "CP" oven. For example, the "CP" oven will maintain a low temperature of 250°, making real "low temperature" cooking a practical possibility thereby reducing meat shrinkage and providing a way to cook the tougher and cheaper cuts of meat with results as tender and as palatable as the more expensive cuts. This effects a saving in fuel and in food costs, both only made possible by the greater flexibility of gas cooking with a "CP" Range.

Q. What other savings does the "CP" Range make possible?

A. You have already learned of the less food spoilage in the smokeless broiler and the savings of low temperature oven cooking. But, in general, four-fifths of the total cooking done is on the top burners. The simmer burner makes waterless cooking possible and simple as A, B, C. Vegetables can be cooked without boiling away minerals or the waste of pouring healthful ingredients down the sink in excess quantities of water. Vegetables are not burned or their best essentials destroyed. Savings from the use of the top burners will more than pay for the "CP" Range during its long and useful life in your kitchen.

In fact, with its savings in gas, its savings in food and with its added convenience and kitchen comfort, it costs less to own a "CP" gas range than to be without one.

Non-rust hi-speed burners on the "CP" gas range make them easy to keep clean.

The cp RANGE AT A GLANCE

Compiled by GAS Staff

No. 1. Dual purpose simmer burners make waterless cooking easier than old methods.

No. 2 One or more giant high-speed burners give fastest, most economical cooking ever known.

No. 3. All top burners light automatically. No more matches needed.

No. 4. Non-rust burners make cleaning fast, simple and easy.

No. 5. New, efficient top burners cut fuel cost more than one-third.

No. 6. Fast broilers cut pre-heating time to a minimum and save fuel.

No. 7. Improved insulation keeps heat in broiler for cooler kitchen comfort.

No. 8. Perfected smokeless broilers eliminate possibility of grease fires and smoke.

No. 9. Broiler has automatic lighter. No more matches needed.

No. 10. One-third greater usable broiler areas than before save fuel and cooking time.

No. 11. New broiler efficiencies cut fuel cost almost in half.

No. 12. Range carries approval seal of American Gas Association for safety and durability.

No. 13. Fast ovens cut pre-heating time in half and save fuel.

No. 14. New low-temperature oven cookery now possible, which eliminates excess meat shrinkage.

No. 15. Oven has automatic lighting. No more matches needed.

No. 16. Improved insulation keeps heat in oven, out of kitchen, for cool comfort.

No. 17. Fast oven pre-heating saves time and cuts fuel cost.

No. 18. New oven burner efficiency and insulation cut fuel cost lower than ever before.

No. 19. New "stops" on all drawers and oven racks eliminate spillage.

No. 20. Automatic oven heat control takes guess-work out of cooking and eliminates baking failures.

No. 21. All utensil drawers on roller bearings for easy handling.

No. 22. New oven vent keeps food vapors away from wall for cleaner kitchen.

Combining the *22 best features* of all ranges in one!

COMPARISON TABLE OF THE NEW "CP" RANGE REQUIREMENTS AND THE PREVIOUS AMERICAN GAS ASSOCIATION STANDARDS FOR THE YEARS 1936 AND 1938

Requirements for New "CP" Ranges	Previous A. G. A. Standards		New "CP" Standards
	1936	1938	
Top Burners			
Top burners shall be of the dual-purpose type for simmering. High-low type burner valves are acceptable.	Optional	Optional	Required
One or more top burners shall have an input rating of 12,000 Btu. per hour and shall have an output capacity sufficient to raise 5 lbs. of water 140°F. in not more than 9 minutes.	Input optional; no output	Input optional; no output	Required Required
The thermal efficiency of standard gas range top burners shall be not less than 45%.	30%	40%	45%
Automatic top burner ignition shall be provided for all top burners.	Optional	Optional	Required
Top burner heads either shall be constructed of rust-resisting metal or shall have an enamel finish.	Optional	Optional	Required
Broilers			
The broiler temperature on combination oven and broiler ranges shall reach 600°F. above room temperature within 15 minutes.	20 min.	20 min.	15 min.
The minimum effective broiling area shall be equal to 50% of the horizontal cross-sectional area of the broiling compartment.	35%	35%	50%
The average broiler temperature shall reach 600°F. above room temperature within 15 minutes with a rated hourly input less than 22,000 Btu. per sq. ft. of effective broiling area.	20 min. Mfrs. Rating	20 min. Mfrs. Rating	15 min. 22000 Btu.
An effective smokeless type of broiler pan shall be provided.	None	None	Required
Exposed broiler top surfaces shall not exceed a maximum temperature of 150°F. above room temperature.	500°F.	500°F.	150°F.
An automatic broiler burner lighter, with an automatic device to prevent escape of unburned gas, shall be provided.	None	None	Required

Requirements for New "CP" Ranges	Previous A. G. A. Standards		New "CP" Standards
	1936	1938	
Ovens			
Ovens shall attain a temperature of 500°F. from 70° room temperature in 11 min. (Rate: 39.1° per minute.)	20 min. (21.5°/min.)	17.9 min. (24°/min.)	11 min. (39.1°/min.)
Heating of ovens from 70°F. room temperature to 500° shall require an input of not more than 1600 Btu. per cu. ft. of oven space.	None	3000 for insulated; 3500 for non-ins.	1600 Btu.
Maintenance of oven temperature at 500°F. shall require not more than 3800 Btu. per hour per cu. ft. of oven space.	None	Insulated: 4000 Non-ins.: 5600	3800
The average surface temperature of oven exteriors shall not exceed 75°F. above room temperature.	85°F.	85°F.	75°F.
Ovens, when empty, shall maintain a minimum temperature of 250°F.	None	None	250°F.
An oven thermostat shall be provided for each oven.	Optional	Optional	Required
An automatic oven burner lighter, with an automatic device to prevent escape of unburned gas, shall be provided for each oven.	Optional	Optional	Required
Oven vents shall discharge the flue gases away from rear wall.	None	Optional	Required
Drawers			
Ball-bearing rollers, or the equivalent, shall be provided on all drawers.	None	None	Required
Effective stops shall be provided for all drawers.	None	None	Required

Optional Features

In addition to the above mandatory requirements, the following features have been suggested as desirable and will be found in some models:

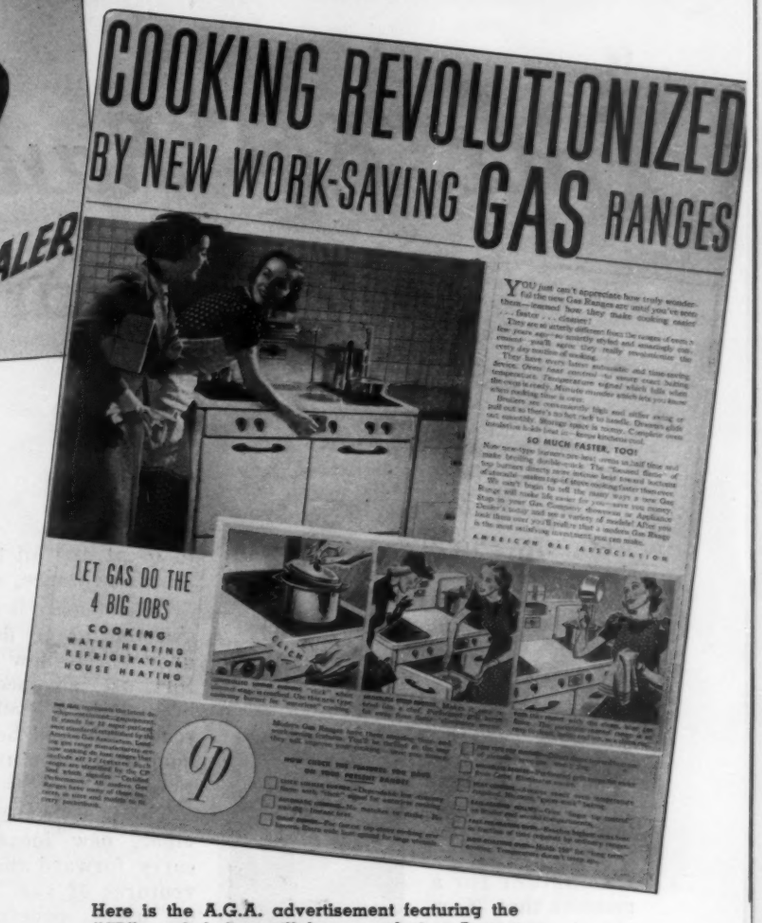
1. Automatic time clock for control of oven.
2. Interval timer.
3. Lamp.
4. Convenience electric outlet.
5. Utility compartment.
6. Plate warmer compartment.
7. Separate high broiler compartment.
8. Design to allow range being installed flush against rear wall where city ordinances permit.
9. Deep well cooker.
10. Griddle.

It is estimated that almost 4,000,000 people will see this Brooklyn Union Gas Co. "CP" Range billboard during September.

The "CP" Range
Telling Its Story

NOW that the "CP" Range is here, one might ask what plans are being formulated by the gas industry to publicize the range, to make it so well known that each day will see an increasing number of "CP" Ranges appearing in homes throughout the nation in a vast campaign to spread the doctrine of cleaner, faster, more economical, more convenient cookery? The photographs on this page and what follows in this article will answer this question in part, though it is certain that the sales progress of "CP" will advance in proportion to the impetus given it, both nationally and locally, by all the forces of advertising which the industry controls.

Major wedge into the public's lack of knowledge on the "CP" Range is the national advertising campaign of the American Gas Association, which, according to T. J. Strickler, chairman, committee to conduct national advertising, has devoted a series of five advertisements in color to the gas range in its 1938-39 national advertising program. The first of these advertisments, which is reproduced on this page, will appear in the September issues of the *Ladies' Home Journal* and the *Woman's Home Companion*, on the news stands August 10 and 15, respectively. This same advertisement will appear on the news stands in September in *Good Housekeeping*, *McCall's*, and the *Saturday Evening Post*. The total consumer circulation of the magazine list chosen for the current program is stated as being 17,498,000.



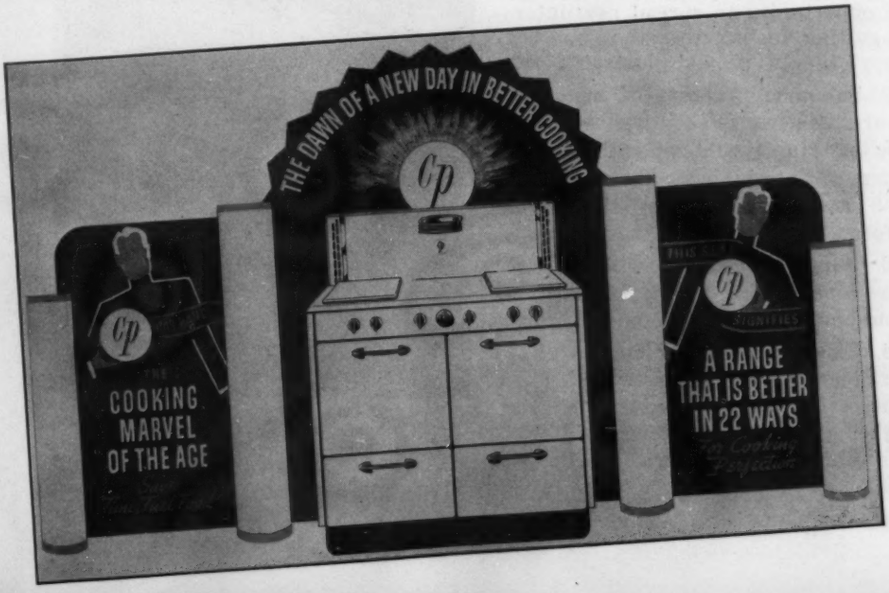
Here is the A.G.A. advertisement featuring the "CP" symbol that will be seen during August and September in five of the nation's leading journals, which offer a combined circulation of 17,498,000.

"In the series of advertisements built around the gas range," says Major Strickler, "with the other domestic uses for gas, we have endeavored through headline and text to let the world know that the newest gas ranges, including those which will bear the 'CP' symbol, have revolutionized cooking and provide a service faster than ever before. Each ad in this series contains some hard-hitting copy deliberately designed to tell a convincing story of the marvelous improvements found today in gas ranges. Note on the ad shown above the inclusion of a new feature, the check chart, designed to list the major advantages of modern gas ranges. The reader is asked to check these against her present range. This device will create an almost irresistible impulse to get out a pencil and start checking."

Another important link in the promotional chain is the complete "CP" Range sales plan book prepared by the Association of Gas Appliance and Equipment Manufacturers.

This sales plan book outlines a com-

(Continued on Page 25)



Out of A.G.A.E.M.'s "CP" Range sales plan books comes this window display offered to gas utilities throughout the nation. The display is adaptable to windows of various sizes.

The "CP" Range

A Clean Parting with the Past!

By A. F. RICE

Manager of Market Development
Southern California Gas Company

Careful Planning!
Consistent Promotion!
Certified Performance!

COOKING PERFECTION! might chronicle, concisely, the entire story of the conception; the research; the planning; the fruition, of Certified Performance Gas Ranges.

The "CP" Range is at once an ideal of the industry; a covenant of the industry with our customers; a challenge by the industry to all competition.

A. F. RICE

Consider for a moment that "Certified Performance" means precisely, gas ranges of specified quality and performance requirements, tested meticulously by qualified laboratories.

Consider, also, that the "CP" Range has concentrated, what we have chosen to describe as widely scattered forces on a single purpose. The plus factor of this is that we still maintain the force of strong individual effort and ideas, but all traveling a common highway; supporting a common cause.

Nothing could reveal more clearly the progressive thinking; the clear foresight, or the profound confidence for the future of our industry than does this "Certified Performance" movement.

The "CP" Range stands as the crystallized manifestation of a desire on the part of the creative thinkers in the industry to be sure-certain that gas service to our users will give the superlatively ideal performance of which it is inherently capable.

The "CP" Range stands as a declaration of willingness to break with the past. To start anew, with a fresh viewpoint, a new outlook. Fear of change, if change be good, no longer exercises any influence. Proof is, that this change—this forward step, is taken at the very time existing data proves gas to be at an "all time" peak of progress, acceptance, and usage.

Obsolescence is no longer the family skeleton to be deplored in cautious undertones—now that efficiency, comfort, use, advanced speed, have been brought to a level that equals the already achieved beauty of design and quality of structure of the modern gas range.

The "CP" Range comes to add new vigor, new ideas, new courage, to carry forward the already successful ventures of gas. Renewed respect of old users; penetration of new markets; acquirement of new customers are as certain and sure for the gas industry, as the gas industry is certain and sure of the basic, and customer-pleasing operating requirements of "Certified Performance" gas ranges.

Such gains cannot fail to accrue. An industry that has been ever faithful and dependable now contracts with its customers that through "CP" Ranges they can expect an assured measure of better service than the fine service gas has provided in the past.

Our present and prospective customers will know of our advanced position because,

1. Advertising men of manufacturers, dealers, and utilities will relish the opportunity to spread new interest-getting facts across the pages of "copy" they write and illustrate;

2. Salesmen, whether of manufacturers, dealers, or utilities will find new opportunity and will enthusiastically move into higher selling brackets over a broader market than ever before;

3. Home economists will enthuse more confidentally during presentation from platforms and in homes;

4. Utility general personnel will be reawakened to reach new fields of prospective users, because of the higher performance ability of "CP" Gas Ranges, and because each will know the claims are based on truth, and not wishful optimism.

No sales effort, however sincere, however clever, ever has generated or ever will generate the sustained, irresistible driving force that springs from confidence based on truth—enthusiasm based on confidence. The knowledge that enthusiasm, essential to successful selling, will not be prostituted in the slightest, but supported to the full by the actual response of "CP" Gas Ranges, will develop a grade of selling enthusiasm never before known to the gas industry.

The heights of public acceptance that can be scaled are limited only by our ability to tell our story to all within the reach of gas service. Presumption plays no part in this thinking because gas as a cooking medium has always been:

1. Clean, in general ability to avoid excess vaporization and distillation through instant adjustment to exact temperatures; and because gas combustion creates no dirt of any kind.

(Continued on Page 27)

"CP" spells greater freedom for the user. Fewer hours in hot kitchens, and better results.

The "CP" Range

Ideal Ammunition for Salesmen!

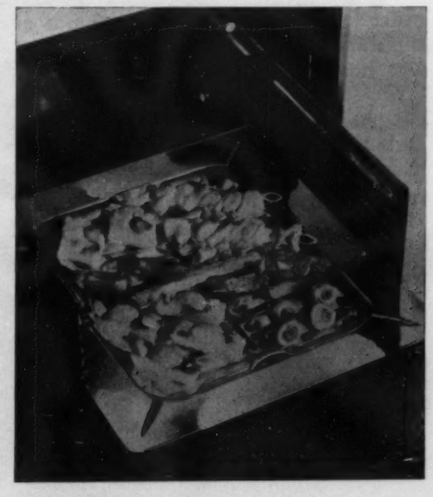
By R. A. KOEHLER

Public Service Electric & Gas Company
Newark, New Jersey

THERE is nothing that can stop a great idea ready to emerge. This tested philosophy of ancient wisemen should again be demonstrated this month when the accumulated experience of the industry's foremost sales, technical and gas utilization engineers bring to the public the new "Certified Performance" gas range.

No matter how jaded the buying appetite of the American consumer may become, he or she will find the money to buy when a new product catches his or her imagination. The new "CP" Range should capture the imagination of householders because it embodies drama, great promise and above all something really *new*. It has the flare that is needed at this time to cause men and women with money and jobs to come out of purchasing retirement. It should make their long "patient" money "impatient."

Utilities and dealers will be selling the concentrated accomplishment of the best sales and engineering brains in the gas industry when they launch campaigns this summer on the new "CP" Range.



Double quick smokeless "CP" broiler construction drains grease away from flame.

It is a remarkable fact that the industry's cooperative creative brain has made available to the homeowner a gas appliance featuring 22 points of distinction. The leaders in this effort, members of the American Gas Association and the Association of Gas Appliance and Equipment Manufacturers, pooled their research brains for the greater good. This fact alone is a thrilling story in industrial cooperation which any salesman can use to good advantage in awakening the public from its buying lethargy.

Another selling point of the new "CP" Range is the fact that it is so outstanding in the improvements it promises, that even now 18 manufacturers have signified their intention to produce these new "CP" ranges; and behind all this is the joint promotional effort of the Association of Gas Appliance and Equipment Manufacturers' Range Committee and the national advertising program of the American Gas Association.

The fruits of research in the science laboratory have rarely, if ever, been nurtured so carefully by such a group of skilled men. Add to this the intelligence and promotional ability of the sales engineers who have also worked to give the manufacturer a product that will appeal from many angles. With something so basically important to work with the manufacturers will, no doubt, put their best foot forward in providing the "eye appeal" which is so important in every sales effort, especially in this day when the buyer insists that behind beauty there must also be quality, superior performance, and economy of operation.

Many a housewife with money in the savings bank needs only an excuse to replace her present unsightly and obsolete gas range. The "CP" Range will give the gas industry an opportunity to show her that she can save money by getting rid of her old appliance today and installing the new "CP" range. This "CP" range should stimulate a selling crusade among utilities and dealers merchandising gas appliances.

The most attractive angle of the new "CP" Range is that it provides a "natural" in the way of an original sales slant. That is, it is the work of the combined superior talent of the gas industry and it is *new*, a word which is always most alluring in the lexicon of Americans who buy.

R. A. KOEHLER

The marketing of the new "CP" gas range gives the entire industry something to talk about, even to "brag" about. It is a direct answer to the challenge of those who have attempted to build an aura of "antiquity" around the gas industry and gas appliances. The gas industry can even go so far as to coin a few superlatives of its own, for today it has a cooking appliance that is worthy of the best description.

One who will certainly have good cause to welcome the "CP" Range is the salesman in the gas company's showrooms. Throughout the country, in big and small towns alike, these men are anticipating delivery of the new ranges. Here, at last, is something that they "can bite their teeth into." No more will the prospective purchaser waltz the poor salesman from one range to another, he naturally doing his best to describe the individual features of each range, and finally, when not being able to cipher out the multi-variation of ranges, the might-have-been customer goes across the street where buying is not half as complicated.

Gas salesmen will be better salesmen because they have the "CP"

(Continued on Page 44)

A Knowledge of Climate Conditions Is Necessary for Satisfactory Summer Air Conditioning

By CARL H. DEAN

Air Conditioning Engineer
Oklahoma Natural Gas Company

LITERALLY speaking, air conditioning is any intentional artificial change in the atmospheric condition within an enclosed space. An accepted definition of comfort air conditioning is the simultaneous control of temperature, humidity, purity and circulation of the air within the space to be conditioned. The woods are full of equipment that heats, cools, humidifies, dehumidifies, filters and circulates the air, but it seems that little attention is paid to the word "control," except regarding temperature.

C. H. DEAN

The problems regarding winter air conditioning are well on the way to solution with the chief item for worry being the proper distribution of the air to eliminate drafts and prevent condensation.

Meeting Public Demand

The summer cycle of air conditioning is now handled as the radio industry was in 1925. The public demanded low price radios connected to a light socket. The radio engineers declared that this was impossible. The public demand was met. The public demand is always met. The public is now demanding low first cost and cheap operation for summer air conditioning. We feel that this demand can be met by natural gas. There is a very impressive list of proven equipment for summer air conditioning either using natural gas now or adaptable to the use of natural gas; steam ejector for chilling water, turbine operated compressors for either water vapor or refrigerant, internal combustion engines to operate refrigerant compressors, steam or gas engines to generate power for electric driven equipment, absorption refrigerating systems, adsorbents to control humidity and be reactivated by natural gas. Any of these, or combinations, can be used to furnish any desired condition for either comfort or industrial process air conditioning at an operating cost in many instances as low as 25 per cent of the operating cost of competitive power.

The choice of equipment depends on the type of conditioning required whether there is exhaust steam available, maximum pressure of steam available, temperature and volume of well water, load factors, etc. The crying need of the natural gas industry today regarding summer air conditioning is complete lines of equipment marketed under a single name and a single responsibility. Since there are large corporations, whose names are household words, already in the field, it seems that the logical move on our part is to sell these firms on the potential market for natural gas acuated equipment.

Regardless of the type of equipment used, the design and the capacity of the system are governed by the load. The load must be determined by the atmospheric conditions to be encountered. We do not know what those conditions are, and this lack of knowledge is the cause of a large percentage of the unsatisfactory installations made to date.

The *Heating Ventilating Air Conditioning Guide* published by the American Society of Heating and Ventilating Engineers is accepted as an authority by most air conditioning engineers. On pages 148 and 149 of the 1938 edition of the Guide is a table of design dry bulb and wet bulb temperatures, wind velocities, and wind directions for June, July, August and September. There are 69 points listed making an average for the country of one for approximately 44,000 square miles. This information would be meager enough if the points were evenly distributed, but we find that there are 37 points listed in an area of 736,000 square miles, leaving the other 32 to be distributed over the remaining 2,290,000 square miles at an average of one point for every 71,586 square miles, which is about the size of the state of Oklahoma with one point, or the combined area of Pennsylvania, New Jersey, Delaware, Maryland and the District of Columbia with six points, or all of the states of New England with six points. This table is based on a study covering a 20-year record of Weather Bureau temperatures.

We have therefore large areas such as the State of Oklahoma with a single design condition given although there is a wide variation in climatic conditions in a territory approximately 230 miles north and south and nearly 500 miles east and west, including the Panhandle.

Determining Actual Conditions

Last year the Oklahoma Natural Gas Co. decided to determine what the actual condition is in Tulsa during the summer months, and installed a recording dry and wet bulb thermometer at their building for this purpose. No claim is made that the temperatures recorded are official. The Hygrometer is mercury actuated and of reputable manufacture. The bulbs are housed in a louvered box constructed according to official specifications and mounted on the top of a pent house wall 160 ft. above the pavement and the instrument is tested once a week for variations. Twenty-four hour charts are used. From these charts an hourly record of dry bulb, wet bulb and dew point temperatures is compiled. Charts are made showing the condition of the atmosphere at the maximum dry bulb temperature of each day. These charts show the dry bulb, wet bulb, dew point, total heat, per cent of latent heat, relative humidity, and grains of moisture per pound of air. From these charts a record of average maximum conditions by months is made.

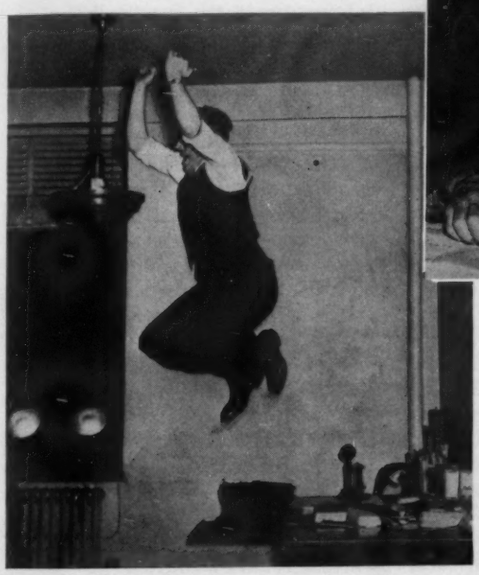
(Continued on Page 28)

GAS CAMERA

. . . Of Banquets, Broadcasts, Trailers and Leaping Men

THE MAN pictured below is Joe Knolling, publicity department, Cincinnati Gas & Electric Co. In a company contest, employees were asked to caption the picture of Mr. Knolling. The winner, Mrs. Marion D. Toohey; the prize, $5; the caption, "I must see a doctor about this gas on my stomach."

ONE AFTERMATH of the recent nationwide competition in home design and town planning sponsored by the American Gas Association and "Architectural Forum" was a banquet held at the home office of the Southern California Gas Co., in Los Angeles. Prizes were awarded to five Los Angeles winners, as over 200 local architects attended. Among those present (above) were Professor Homer B. Huntoon, University of Southern California; Norman R. McKee, vice president, Southern Counties Gas Co.; Frank Weiss, sales executive, Southern California Gas Co.; and (at left) Clyde H. Potter, commercial manager, So. Counties Gas Co.; F. M. Banks, vice president, So. Calif. Gas Co.



CHRISTENED THE "Prosperity" and "Success," the two refrigerator trailers shown below were launched in June by the Grand Rapids Gas Light Co., Grand Rapids, Mich. On hand for the ceremony, (left to right) were Mildred Gray, sponsor for the "Success;" W. M. Chamberlain, assistant sales manager; John L. Heydenburg, shop foreman; W. H. Kurdelski, supervisor, refrigerator sales; B. T. Franck, general sales manager; Beatrice L. Geesey, sponsor for the "Prosperity;" Dan Smith, refrigerator specialist service dept.; George Wieland, refrigerator division.

QUESTIONS AND ANSWERS on home service activities featured a special interview broadcast to Kansas City housewives by delegates attending the Home Service Conference and Training Course in Kansas City last June. Left to right are Chas. D. Greason, director of publicity and advertising, The Gas Service Co.; Jessie McQueen, home service counselor, American Gas Association; Mildred Clark, Oklahoma Natural Gas Co. and chairman of the home service committee of the A.G.A.; Ada Bessie Swann, director of the home service center, "Woman's Home Companion;" Helen Moore, University of Kansas home economics graduate; Mrs. Mart Adams, women's editor of the Oklahoman Publishing Co. of Oklahoma City; Betty Boyle, home service director, The Gas Service Co., and James Coy, announcer.

Auditing

By R. E. FISHER

Vice-president in charge of Public Relations and Sales
Pacific Gas and Electric Company*

PUBLIC RELATIONS AUDIT

DAILY REPORT

DATE — P. R. & S. DEPT. — DIVISION — LOCATION

A. TELEPHONE FOLLOW-UP FROM COMPLAINT TAGS

PERIOD	IS COMPANY SERVICE SATISFACTORY?			SUGGESTIONS FOR IMPROVING SERVICE		TOTAL CALLS	TOTAL CALLS LISTED	NO. TEL.	NO. ANS.
	NON. COMM.	SAT.	UNSAT.	YES	NO				
CALLS MADE									
PREVIOUSLY REPORTED									
TOTAL TO DATE									

B. PERSONAL CALLS ON CUSTOMERS

PERIOD	IS COMPANY SERVICE SATISFACTORY?			SUGGESTIONS FOR IMPROVING SERVICE		TOTAL CALLS	TOTAL CALLS LISTED	NO. TEL.	NO. ANS.
	NON. COMM.	SAT.	UNSAT.	YES	NO				
CALLS MADE									
PREVIOUSLY REPORTED									
TOTAL TO DATE									

TOTAL OF CALLS (A PLUS B)

PERIOD	IS COMPANY SERVICE SATISFACTORY?			SUGGESTIONS FOR IMPROVING SERVICE		TOTAL CALLS	TOTAL CALLS LISTED	NO. TEL.	NO. ANS.
	NON. COMM.	SAT.	UNSAT.	YES	NO				
CALLS MADE									
PREVIOUSLY REPORTED									
TOTAL TO DATE									

RECAPITULATION

	TODAY	TO DATE
TOTAL NUMBER OF CUSTOMERS CONTACTED		
PRESENT SERVICE SATISFACTORY		
PRESENT SERVICE NOT SATISFACTORY		
SUGGESTIONS FOR IMPROVING SERVICE		
CALLS TODAY: BUSINESS		
RESIDENTIAL		
INDUSTRIAL		
AGRICULTURAL		
COMPLAINT TAGS ISSUED: ELEC.		
GAS		
COMPLAINT TAGS REISSUED: ELEC.		
GAS		
TOTAL CALLS TO DATE: BUSINESS		
RESIDENTIAL		
INDUSTRIAL		
AGRICULTURAL		

SIGNED _____ AUDITOR.

FIG. 1.
Daily report form used by Pacific Gas and Electric Co., in conducting its public relations audit.

THE general concept of good public relations is a strict adherence to those factors which build up public confidence and create a favorable attitude on the part of the customers toward the company. With this in mind, it is the contention of the company that it is just as essential that a method should be devised by which we should obtain for the company the general sentiment of our customers as that we should determine whether the accounts of the company were being correctly kept or its inventories properly indexed.

R. E. FISHER

In order to measure the attitude of its customers, the Pacific Gas and Electric Co. carries on a "Public Relations Audit" of the service the organization renders to its customers.

In planning the audit it is essential to give some attention to the selection of the auditors. The auditors should be familiar with the general policies, background and history of the company, types of commodities available in the various localities, rate schedules and methods of computation, billing periods and general plan of servicing, together with a knowledge of departmental functions and departmental relationships. In view of this, men experienced in the company's general activities and qualified to meet the public were selected.

We are primarily interested in what the customer thinks of the company generally and particularly of the company's service, together with the attitude displayed by our local organization toward the customer.

The company devotes a great deal of time to the inspection and servicing of the customers' appliances. The first step in the audit is to determine how well this appliance maintenance work is being performed. A group of service tags are selected at random to give the auditors the general information for checking service work in the field. The customer is called on the telephone and, after the auditor introduces himself, is told that our service records of yesterday indicate that work has been performed on his premises, mentioning the particular appliances involved and inquiry is made as to whether the work has been done to the entire satisfaction of the customer. This we call "Auditing service tags." If the customer has expressed doubt or dissatisfaction with the results of the service call, a second tag is issued (Reissued Tag) by the auditor which necessitates a "call back" by one of the appliance service department men. The service tags are carefully scrutinized by the auditors to ascertain whether full information dealing with the transaction has been recorded on the tag, and whether the tags have been properly filed for future reference. Any irregularities in this regard are immediately reported to the service supervisor having charge of the work in that particular locality. Notation is also made on the auditor's daily report. This is the only occasion for telephone contact with the customer, which usually varies from 10 to 15 per cent of the total number of customers contacted, according to the density of the territory being audited and the availability of customer telephones.

Personal contacts are made by the auditors, the meter reader's route book being used as a guide. The use of the route book is of material assistance to the auditor for the reason that it shows the name of the occupant at the particular address called upon. This obviates any embarassment in requesting the name of the customer.

In calling upon the customer, care is taken by the auditor that his manner shall not be construed as an invitation to the customer to complain, but to allow the customer an opportunity to express freely his feeling regarding the company and its service.

The auditor is in no way interested in the sale of appliances or devices, and by his manner and expression makes that very clear to the customer.

It is very apparent that his call is purely a matter of mutual interest; the customer invariably is pleased with the interest shown by the company. In specifically inquiring

* A portion of a paper, "Improving Customer Contacts," presented by Mr. Fisher before the Northwest Conference of the Pacific Coast Gas Association, Portland, Ore., June 16 and 17, 1938.

Public Relations

A Review of a Pacific Coast Company's Plan To Evaluate and Improve Its Public Relations

whether the service is satisfactory to the customer, it is also asked if he has any suggestions to offer which will tend to the betterment of the company's service. The reaction of the customer is very carefully studied, and his comments or complaints recorded. It is important that the records of the customer's responses, on the daily report sheet, should disclose as nearly as possible, what the customer said, and a notation that will indicate whether his manner was friendly, passive or critical.

The following forms are employed in the audit:

1. *Customer Complaint and Comment Report:* This is for the field use of the auditor, who makes a separate report for each comment or complaint made. The original of this report is sent in daily to the head office, a carbon copy being furnished the division office for immediate information and attention. This report is then typed in sufficient number to furnish interested department heads a daily copy. Two copies are returned to the division office. When the division office has completed the investigation of the complaint or comment, report of such action is made on the reverse of the form, the original being returned to head office, and a duplicate retained in the division file. Each report is numbered, in order that a complete record may be maintained, and these are followed up to see that a report on each and every complaint is returned.

2. *Daily Report:* This is a progressive recap sent daily by the field auditors. It is typed in sufficient number to furnish all interested department heads in the General Office, and a copy is returned to the division office. This indicates the up-to-date status of the audit. (See Fig. 1)

3. *Public Relations Audit Analysis:* This report is compiled in the head office upon completion of the audit, and shows graphically the total number of contacts made, number of complaints, and per cent of complaint contacts made. Copies of this report are also furnished the interested department heads in the General Office and the division office. (See Fig. 2).

4. *Public Relations Audit Analysis for Entire System:* This is an annual report. It is compiled in this office and is a consolidation of the Public Relations Audit Analysis in the respective divisions. It is furnished to all division managers and interested department heads in the General Office, and forms the basis for comparisons among our divisions.

A report is made of each complaint or comment made by the customer, and these are carefully analyzed and classified. A chart showing the results of such analysis is attached. A copy of these reports is left with the individual directly in charge of the local office, and a copy sent to the Public Relations Bureau of the General Office.

In many instances it is possible for the auditor to definitely and satisfactorily dispose of certain minor complaints and contentions during the interview. This is particularly true in matters of high-bill complaints. The auditor, being in possession of the district meter reader's book, is able to refer to past meter registrations and detect any abnormal consumption or apparent inconsistencies. The auditors also carry the seasonal temperature chart, which is valuable in explaining variations in billing, due to seasonal consumption.

Immediately upon receipt of specific complaints, as recorded by the auditor's daily report, investigation is made by the district representatives and a record of the disposition of this specific complaint is shown on the back of the reports; being submitted in duplicate, one copy is retained in the division, while the other is sent to the Public Relations Bureau in the General Office. This establishes a permanent record, not only of the

(Continued on Page 66)

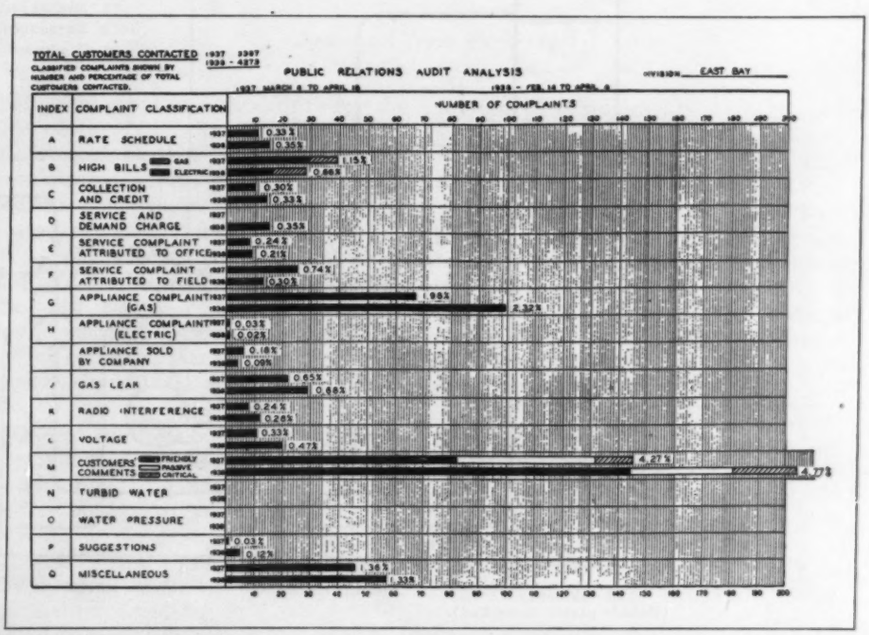

TOTAL CUSTOMERS CONTACTED 1937 3387
1938 - 4273
CLASSIFIED COMPLAINTS SHOWN BY NUMBER AND PERCENTAGE OF TOTAL CUSTOMERS CONTACTED.
PUBLIC RELATIONS AUDIT ANALYSIS
DIVISION EAST BAY
1937 MARCH 8 TO APRIL 18
1938 - FEB. 14 TO APRIL 6
NUMBER OF COMPLAINTS
INDEX
COMPLAINT CLASSIFICATION
A RATE SCHEDULE 0.33% 0.35%
B HIGH BILLS GAS ELECTRIC 1.15% 0.86%
C COLLECTION AND CREDIT 0.30% 0.33%
D SERVICE AND DEMAND CHARGE 0.35%
E SERVICE COMPLAINT ATTRIBUTED TO OFFICE 0.24% 0.21%
F SERVICE COMPLAINT ATTRIBUTED TO FIELD 0.74% 0.30%
G APPLIANCE COMPLAINT (GAS) 1.98% 2.32%
H APPLIANCE COMPLAINT (ELECTRIC) 0.03% 0.02%
APPLIANCE SOLD BY COMPANY 0.18% 0.09%
J GAS LEAK 0.65% 0.68%
K RADIO INTERFERENCE 0.24% 0.26%
L VOLTAGE 0.33% 0.47%
M CUSTOMERS COMMENTS FRIENDLY PASSIVE CRITICAL 4.27% 4.71%
N TURBID WATER
O WATER PRESSURE
P SUGGESTIONS 0.03% 0.12%
Q MISCELLANEOUS 1.36% 1.33%

FIG. 2. The public relations audit analysis of the East-Bay division, Pacific Gas and Electric Co. Total customers contacted in 1937, 3387; in 1938, 4273.

The Phosphate Process for the Removal of Hydrogen Sulfide from Natural Gas

THE Shell phosphate process is a regenerative liquid-purification system for removal and recovery of hydrogen sulfide from natural or refinery gases and liquid hydrocarbons.

The gas to be purified is scrubbed in a conventional bubble plate or packed absorber with an aqueous solution of tripotassium phosphate (K_3PO_4). Hydrogen sulfide is absorbed according to the reaction:

$$K_3PO_4+H_2S=K_2HPO_4+KHS$$

This reaction is reversed by boiling the solution. The vapor boiled off (hydrogen sulfide and steam) is condensed and cooled; the condensate is returned to the absorber, and the hydrogen sulfide is vented to suitable disposal; e. g., boiler fuel or to sulfuric-acid manufacture, sulfur recovery, process use, etc. The regeneration is usually accomplished in a standard reboiler heated with exhaust steam, as shown in Fig. 1. In some cases a direct-fired regenerator may be used to advantage by employing a locomotive-type boiler for solution regeneration. High heat economy is

● **T. W. ROSEBAUGH, Shell Development Co., San Francisco, Calif., in a paper, "The Shell Phosphate Process for the Removal of Hydrogen Sulfide," presented before the Eighth Mid-year Meeting, American Petroleum Institute, Wichita, Kan., May 24, 1938. —(Abstract by GAS).**

realized through the use of exchangers on the solution to and from the regenerator. A final cooler lowers the temperature of the lean solution returned to the absorber.

The solution used runs from 40 to 50 per cent by weight of tripotassium phosphate. This inexpensive solution is prepared at the plant with commercial grades of potassium hydroxide and phosphoric acid. The initial charge lasts indefinitely, as solution loss is confined to packing-gland leakage on pumps.

The equilibrium vapor pressure of hydrogen sulfide over tripotassium-phosphate solution for a given hydrogen-sulfide saturation is greatly reduced upon diluting the solution with water. This reduction in vapor pressure with reduced tripotassium-phosphate concentration is peculiar to the phosphate process, and advantage is taken of this fact by using a system of split solution flow in the absorber. The bulk of the hydrogen sulfide is absorbed in the lower section of the absorber with a 40- to 50-per-cent solution, while the more difficult absorption at lower hydrogen-sulfide concentration occurs in the upper section with a relatively dilute solution.

The system of absorbing hydrogen sulfide with solutions of different concentrations makes it unnecessary to regenerate all of the solution to the lower degree of hydrogen-sulfide saturation required for a low hydrogen-sulfide content in the treated gas. The dilute solution is obtained by returning the condensate from the regenerator accumulator to the top of the absorber along with a small amount of the regenerated solution. The greater portion of the regenerated solution is returned to the lower section of the absorber.

The effect of solution strength on the hydrogen-sulfide vapor pressure for 20- and 50-per cent tripotassium-

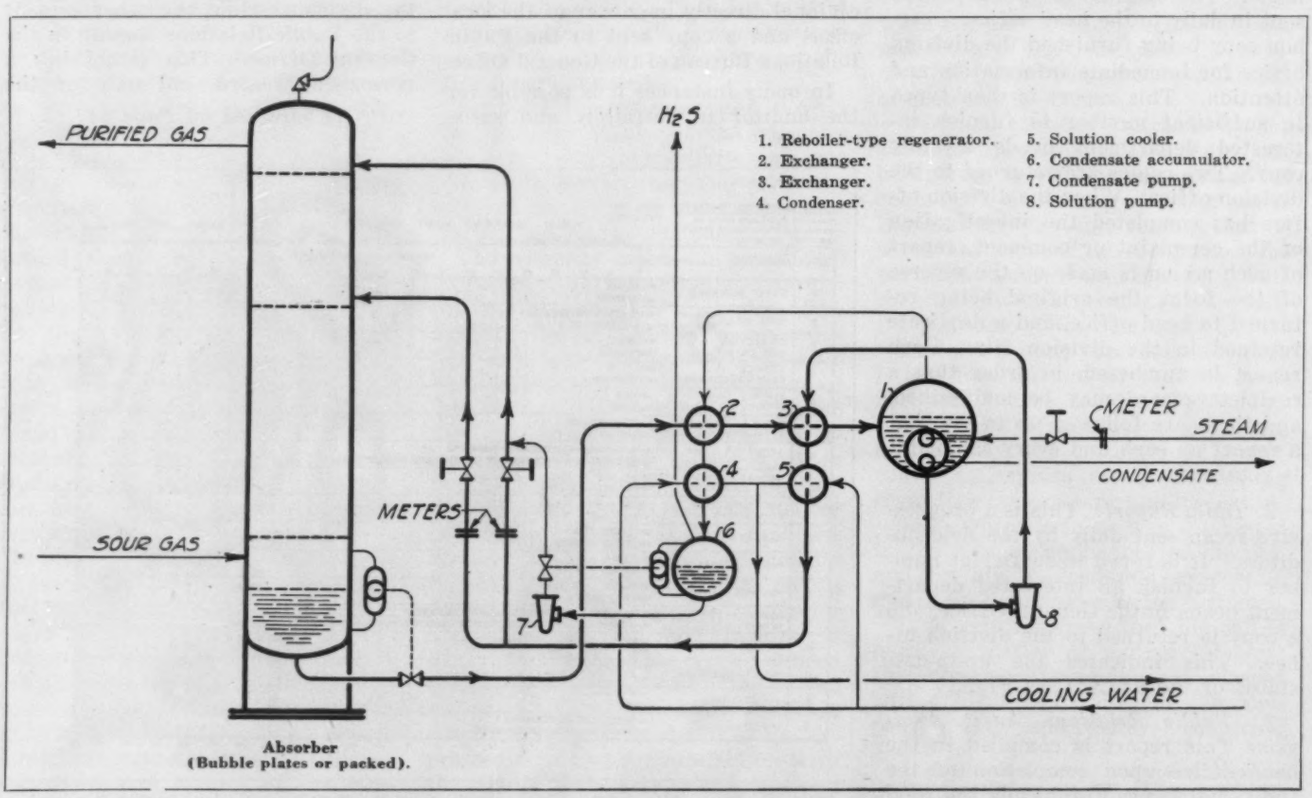


FIG. 1. Shell phosphate process for removal of hydrogen sulfide from natural or refinery gases.

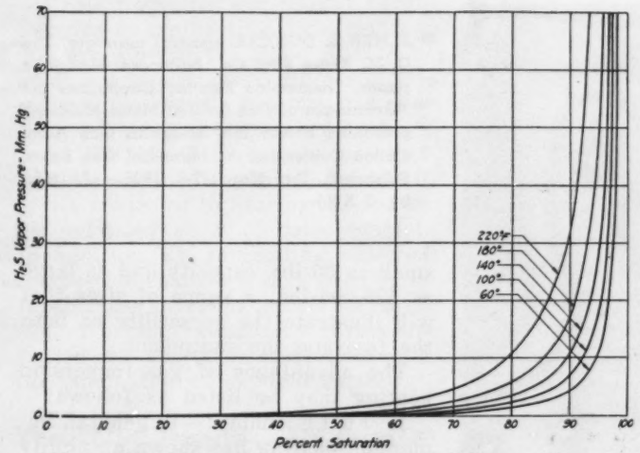


FIG. 2. Equilibrium pressure of hydrogen sulfide over 20 per cent tripotassium-phosphate solution.

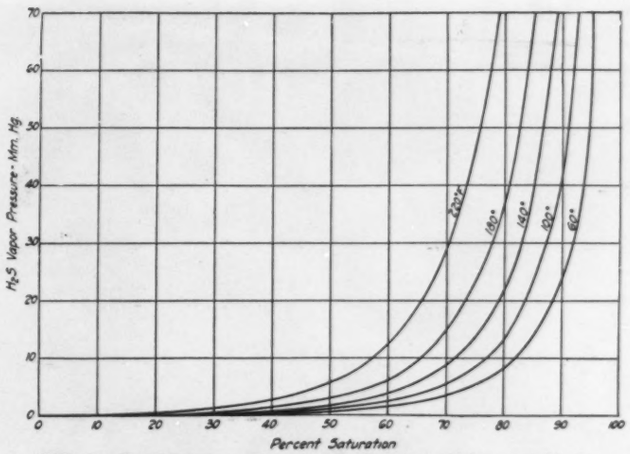


FIG. 3. Equilibrium pressure of hydrogen sulfide over 50 per cent tripotassium-phosphate solution.

phosphate solutions for comparison is illustrated by the equilibrium vapor-pressure curves of hydrogen sulfide over these solutions for various degrees of solution saturation. See Figs. 2 and 3.

For many installations the phosphate process may be used economically for treating gases at temperatures up to 200 deg. F. This is often an advantage in purifying the gases supplied to polymerization plants.

Liquid hydrocarbons may be treated for the removal of hydrogen sulfide. This is easily accomplished with the phosphate process, inasmuch as tripotassium-phosphate solutions are immiscible with hydrocarbons. Only one or two stages are necessary, depending upon the degree of purification required. The regeneration system is the same as that used for vapor-phase treating, and may be either the steam or direct-fired type. In liquid-phase as in vapor-phase treating, two-solution concentrations may be employed to advantage in a two-stage treatment.

Advantages

1. The process is economical.
2. The process is practically non-corrosive to iron and steel equipment. (Copper or copper-bearing materials should not be used.)
3. Tripotassium phosphate is relatively inexpensive.
4. Loss of solution is confined to leakage, which may be controlled. There is no loss of treating agent to the gas or liquid being treated.
5. The process does not introduce catalyst poisons to the gas or liquid hydrocarbon treated for polymerization or other processing.
6. The process may be used economically for absorbing hydrogen sulfide at temperatures up to 200 deg. F.
7. The process may be used for treating liquid hydrocarbons as well as gases, or a combination of treating steps using a common regenerating system may be employed.
8. Direct-fired regeneration may be used to advantage in many locations where steam is not available, or where an inexpensive fuel makes this type of regeneration more economical.
9. It is a self-operating process requiring a minimum of regulation and control tests.
10. Tripotassium phosphate is a very stable salt, and does not break down or decompose through complex side reactions in this service.
11. The plant is simple to construct, and requires a minimum amount of equipment—all of which is standard.
12. The maintenance cost is low.

The process is covered by U. S. Patents 1,945,163 and 2,110,403, assigned to the Shell Development Co. Other patents are pending.

Commercial Installations

At present (March 1938) installations are operating in the Martinez and Dominguez refineries of the Shell Oil Co., the East Chicago refinery of the Shell Petroleum Corp., and the Norwalk refinery of the Wilshire Oil Co. Another plant is under construction at the Watson refinery of the Richfield Oil Co.

Telling the "CP" Range Story

(Continued from Page 17)

plete local promotion procedure for the sale of the "CP" Range by gas companies and dealers. There are tested promotional pieces each in separate pockets and easily removable, suggested newspaper advertisements, direct mail pieces, window and floor displays, attractive bill enclosures, publicity releases, "spot" radio announcements, 20 valuable suggestions for effective dealer cooperation and sales tie-in material suitable for dealer use.

One of the items offered to utilities throughout the nation in the sales plan book is the window display shown at the bottom of page 17. The display may be used with the center panel only for small windows or with the center panel and only one side panel for medium windows.

Gas company sales managers who have not received sample copies are invited to communicate with the Association of Gas Appliance and Equipment Manufacturers at 60 East 42nd Street, New York, N. Y.

Particularly important in the local promotional set up is the 24-sheet billboard. One such billboard, featured by the Brooklyn Union Gas Co., is shown. This 24-sheet "CP" gas range poster will appear during September on 150 billboards throughout the company's territory in Brooklyn and Queens, reaching an estimated 3,000,000 persons. The poster will also be displayed in the territories of the Kings County Lighting Co. and the Brooklyn Borough Gas Co., reaching an additional 500,000 people.

In addition, the billboard will be reproduced in the Brooklyn Union "Newsette," the company's regular folder delivered monthly with the gas bills to 275,000 residential customers.

FIG. 1. View of modern tin plating installation in which the tinning pot is heated with gas immersion.

Soft Meltal Melting Through Gas Immersion Heating

● ELMER B. DUNKAK, general manager, The C. M. Kemp Mfg. Co., Baltimore, Md., in a paper, "Immersion Heating Capitalizes the Advantages of Gas for Soft Metal Melting," presented before the American Gas Association Conference on Industrial Gas Sales, Pittsburgh, Pa., March 7-8, 1938.—(Abstract by GAS).

GAS fuel has very definite advantages in the field of soft metal melting, and when applied to make full use of these, it can be said to be virtually without competition from other fuels.

Oil, in most territories, has a price advantage over gas fuel in cost per million B.t.u.'s, but through higher thermal efficiency and capitalization of temperature regulation, dross control, improved working conditions, and increased pot life, immersion heating with gas fuel at any reasonable rate will be salable. Against solid fuel, gas has all the advantages that it has against oil, together with an obvious reduction in labor and an inevitable increase in production. Electricity, because it fits into the production line in so many cases and has good characteristics insofar as temperature regulation and working conditions are concerned, is definitely a quality competitor; but, fortunately, gas immersion heating has demonstrated that it need make no concessions to electricity from the standpoint of working conditions and temperature regulation, while at the same time operating with a lower fuel cost, greater flexibility, and more rapid heat response due to the ability to install greater heating capacity without regard to demand penalties.

The field of immersion heating has been devoloped to cover:

1. In the printing industry:—Stereotype and remelt operations primarily in newspaper publishing plants. (See below.) Heating of linotype, intertype and monotype composing machines for newspaper publishers as well as trade compositors. The heating of backing-up pots for electrotypers.

2. In the ferrous industries:—The heating of tin pots incident to the manufacture of sheet, tin, and terne plate. (See above.) Heating of tin pots for the dipping of tableware and small household appliances. Tin stacks for the progressive dipping of steel parts through tin and tallow in the production of large stamped articles.

3. In the non-ferrous industries:—The melting of lead-antimony alloy for the production of storage battery grids and terminals. The tin and lead coating of copper wire. Melting tin and lead in the manufacture of collapsible tubes and a distinctly major application in large tinning baths used for the dipping of automobile radiators and extended surface radiation for air conditioning.

4. In the process industries:—Melting of lead in the production of tetra-ethyl lead. Melting of mold metal (lead-antimony alloy) in connection with the manufacture of plastics and hard rubber. Large volume lead melting for hose sheathing.

Installations have demonstrated their practical advantages in pots as small as 30 lbs. capacity and as large as 525,000 lbs., a range of sizes that will illustrate the versatility of both the fuel and the equipment.

The advantages of gas immersion heating may be listed as follows:

1. Fuel Economy:—In general, immersion heating has shown an ability to reduce fuel consumption per unit of product produced by approximately 40 per cent as contrasted with the average fair external gas installation. The reasons for low fuel consumption are: (a) Accurate control of air-gas ratio with assurance of complete combustion. (b) Proper correlation of heating surface to the work to be done assures operation at a predictable thermal efficiency. (c) Side wall radiation can be disregarded with immersion heating because it is possible to thoroughly insulate the heating unit.

2. Control of Temperature:—With immersion heating there is no heat storage in the container or lightweight insulation, and likewise no heat absorption during firing periods. Thus it is possible, with relatively inexpensive two-position control, to get very satisfactory temperature regulation.

3. Reduction in Dross Formation:

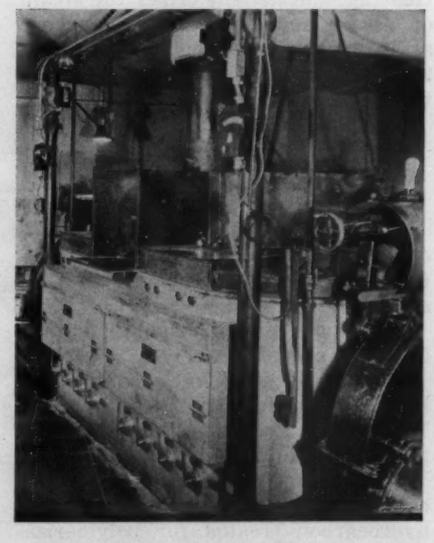


FIG. 2. The stereotype melting unit pictured above is heated by gas immersion. Holding 12 tons of metal, the pot furnishes 38,000 lbs. of molten metal per hour, supplying metal to two automatic plate casters.

—Dross formation can usually be attributed to overheating, local heating, and exposure of the metal surface to oxidizing atmospheres. Here gas immersion controlled heating has distinct advantages over other fuel.

4. The life of the pot or container is immeasurably lengthened because it is not subjected to heating strains or the oxidizing effect of flame contact. In addition, by eliminating external combustion chambers, it is possible to support the container on all surfaces.

5. Working conditions are improved by thorough insulation, and the elimination of exposed flames.

The "CP" Range—A Clean Parting with the Past

(Continued from Page 18)

2. Quick—no other energy could meet gas in "get-a-way" in oven, broiler, or cooking top.

3. Cool, exact temperatures require no production of excess heat because of uncertain control.

4. A natural method of cookery: Eye evaluation and instinct in conjunction with instant response to control, making unnecessary studied, stove-bound methods.

5. A steady sure application of heat rather than jerky, stop and go, ponderous sluggish, mechanized pretense.

6. Best in broiling and toasting by an incomparable margin and above all without producing acrid kitchen permeating smoke.

7. A performer that provides mouth-watering flavor to roasts and pastry—even-textured, featherweight cakes in air flow ovens, rather than odor soaked baking and meats diluted in flavor in humid air blocked ovens.

In short, gas has never been outpaced in the past, outmoded at present, and now "CP" Range dares step forward in efficiency, coolness, convenience, speed, and super-control to outmode present gas cookery with a new mode of gas cookery.

Surely our conception of an ideal; our willingness to create improved performance for our customers; our challenge to competition to approach or equal gas cooking attainments, will find that our self-imposed discipline will mean, actually self-made opportunity and a broader future for all in the gas industry.

■ ■

A.G.A. Board Approves Date For Industry Day at Fair

The Executive Board of the American Gas Association has approved naming Monday, October 9, 1939, as Gas Industry Day at the New York World's Fair. A program of special activities appropriate for the occasion is being considered, details to be announced later.

Battery of heavy duty ranges and fryers (in foreground) installed at the Essex County Hospital, Cedar Grove, N. J.

How to Keep Commercial Kitchens Up-to-Date

● **C. H. FRENCH, Standard Gas Equipment Corp., New York City, in a paper, "Keeping Commercial Kitchens Up-To-Date," presented at the Annual Convention of the Natural Gas Department of the American Gas Association, New Orleans, La., May 9-12, 1938.—(Abstract by G A S).**

THE commercial or volume cooking consumer is the most stable and profitable class of customer the gas company has on its lines—they are consistent users of the fuel; they generally operate 365 days of the year, in thousands of cases 24 hours a day.

What can be done to keep them satisfied and from considering competitive fuels?

From observation and experience over a 40-year period, divided between the gas utility business and manufacturing gas appliances, the author notes that the commercial cooking customer feels he is something more than just a domestic customer and therefore entitled to more attention from the gas company, not only from the sales department but also and especially from the service department. Commercial equipment must at all times be in proper adjustment, and service rendered by this department will do more than anything else to hold customers and keep them satisfied. Keeping the customer satisfied and happy is the best advertising and publicity the gas company can have. It costs money to maintain an efficient service department, but it will pay good dividends in the end.

Service men should be well schooled in knowing, not only proper burner adjustment but specially instructed in the regulating and calibrating thermostats and all types of temperature controls now being used on modern gas equipment. It is most surprising the lack of knowledge on this subject that exists generally throughout the entire country. This condition for the good of the local gas company and the industry as a whole must be rectified, and quickly. The method which has proven most successful is as follows:

1. Properly schooled sales or kitchen engineers plus efficient service departments.

2. Surveys must be made of kitchens in hotels, clubs, hospitals, and restaurants of all classes, City, County, State, and Government institutions. These surveys should include details such as (1) condition of present equipment, (2) kind of appliances, (3) kind of fuel used, (4) floor space occupied by present equipment, (5) additional available space for growth, (6) class of service, (7) number of people served daily or per meal. Approximate hourly use per day of each appliance and average daily gas consumption.

3. The object of the survey is to obtain facts so that, by studying the existing conditions, proper recommendations can be made for the

installation of up-to-date equipment.

4. Great care should be taken in submitting proposals to the customer, advocating the installation of up-to-date equipment to replace the old.

5. The proposal to the customer should contain such important points as condition of present equipment, recommended new equipment, itemized prices, and approximate hourly consumption of each appliance. Submit only illustrations of the appliances recommended; attach a blueprint drawing showing just how the battery of equipment will be lined up when installed; state time installation can be made and terms of payment.

6. The proposal should mention the approximate per cent of saving in fuel cost of the new equipment over the old. Up-to-date appliances now save from 20 to 50 per cent, according to class of service and type of cooking.

7. All of the above data should be assembled and put in a binder with customer's name and address put on the outside of the binder. It is also well to have the customer's name or name of his place on the blueprint drawing. Proposals submitted in this form bear considerable weight with the customer and are not consigned to the waste basket.

Advertising

Local newspaper advertising by the gas companies on heavy duty cooking appliances is very conspicuous by its absence.

The heavy duty appliance manufacturers and by this is meant only those making A.G.A. approved equipment spend more for advertising in one month than the combined gas companies of the country put together spend in a year. The advertising done by heavy duty appliance manufacturers covers most of the national magazines that go to hotels, restaurants, clubs, hospitals, chain stores, schools, colleges, and to the architects.

In the past two or three years the American Gas Association, Industrial Gas Section, has advertised in some of these publications advocating the use of gas for commercial cooking and baking, but this is not enough. Local newspaper advertising should be done systematically by gas companies if up-to-date commercial kitchens are to be had and maintained.

During the past five years the gas companies have realized the importance of co-operating with the kitchen equipment dealers. Although this movement is proving successful, it does not mean that the gas company can relinquish responsibility but must carefully supervise every installation to see that approved equipment of the right character for the work to be done is put in, and that all service and piping conditions are adequate. Burner and thermostatic adjustments should be inspected and tested before equipment is put into actual use by the customer. The gas company representatives should make it their business to educate the dealer salesmen fully on the advantages of gas as a fuel and wherever possible work with the dealer salesman in selling and closing the sale. The dealer salesman in many cases can teach the company representative many points in the art of selling and laying out kitchens which is most valuable.

In conclusion, greater attention must be given to the replacement of obsolete and worn out commercial gas kitchen appliances, particularly so in the face of ever increasing electric competition, subsidized or otherwise. Every replacement today with modern gas units constitutes a virtual five to ten year paid up insurance policy for the continued use of gas fuel.

Air Conditioning Knowledge

(Continued from Page 20)

These records for 1937 brought out some astounding facts. The design condition given in the *A. S. H. & V. E. Guide* for 1937 for Oklahoma City was 96° D. B., 76° W. B., 102 grains of moisture per pound. The average maximums recorded at Tulsa were: June—89° D. B., 73° W. B., July—95° D. B., 76.5° W. B., August—96.3° D. B., 77.3° W. B. On 16 days in June, 23 days in July, 26 days in August and 12 days in September the moisture content at the maximum dry bulb for the day exceeded 102 grains per pound of air, and there were 374 hours when the wet bulb temperature was above 76°. There were only 1020 hours of 85° dry bulb or higher during the summer. On 26 days the dry bulb reached or passed 100°. During 1936 there were 65 days of 100° dry bulb or higher. Average maximum conditions in summer are no more reliable by which to size equipment than average minimum in the winter. Consideration must be given to the extremes that make up the average. There is a mistaken opinion that extremes last for only a few hours, which may be true for dry bulb temperatures, but is not true for dew point temperatures.

We are advising the use of 98° D. B., 79° W. B., 118 gr. per lb. as tentative outside design temperatures for Tulsa. We realize that the record of a single year is a slim basis for design temperature, but a start must be made and we intend to continue compiling data on summer conditions and eventually will have a design that can be depended upon. Thousands of tons of air conditioning were installed in Tulsa last year, and in most cases there were an alarming number of complaints regarding humidity control due to lack of knowledge of the conditions to be encountered.

It is the duty of the utility companies that expect to profit from air conditioning to assemble information relative to conditions to be expected. It should be a pleasant duty for the natural gas companies as it is evident that there is much misapprehension regarding the humidities that prevail and too much stress is laid on relative humidity rather than the moisture content measured in grains per pound of air. When the actual conditions are known it will be seen that there is a definite field for independent control of humidity by gas reactivated adsorbents such as Silica Gel, Lithium Chloride, etc.

We are all familiar with the benefits received by the natural gas industry as the result of compiling data on degree days during the heating season and it is not too early, in fact it is imperative that we immediately start assembling information for the summer cycle of comfort air conditioning.

Comfort Air Conditioning is in the development stage. As the problem becomes better defined and the public learns to demand true air conditioning rather than simple heating and cooling, the residents of the territories supplied with natural gas will find it the most satisfactory and economical source of energy available for the purpose.

■ ■

B. J. Denman, United Light Executive, Passes

Burt J. Denman, vice-president and general manager of the United Light and Power Co., Chicago, Ill., died June 25, while en route to Chicago via the New York Central's Commodore Vanderbilt. Mr. Denman was the victim of a heart attack during his sleep. In addition to his activities in the utilities field, Mr. Denman was a trustee of Northwestern University.

What Will a Wife Tell Her Husband About Gas Service?

● DAVIS M. DeBARD, vice president, Stone & Webster Service Corp., New York, N. Y., in a paper, "Will a Wife Tell Her Husband," presented before the American Gas Association Natural Gas Department Convention, New Orleans, La., May 9-12, 1938.—(Abstract by GAS).

WILL a Wife Tell Her Husband? I mean will a wife tell her husband what she wants him to buy her? She will. If she does not buy it herself without saying a word to him about it. There is no question about one thing: women are the purchasing agents for American homes whether they tell their husbands or not.

What does this fact mean to the gas industry? Although the sale of natural gas for domestic purposes was only 27.2 per cent of the total sold in 1937, that same 27.2 per cent by volume produced $248,000,000 of revenue in 1937; which was 56 per cent of the total dollars taken in. One company had residential sales that produced 59 per cent of the gross revenue and another in which they made up 64 per cent in spite of the fact that they accounted for less than 40 per cent of the total M c.f. in each case.

We should give fuller recognition to the fact that residential load is most important. It costs more to operate, to be sure, but it is much less volatile and, therefore, varies much less through periods of economic depression. And the only reason some of it is unprofitable is because we have not sold the *full* use of our service to one-tenth of our potential customers.

The United States has only 7 per cent of the world's population. And yet we consume 48 per cent of the world's output of coffee, 50 per cent of its rubber, and 53 per cent of its tin, etc. In short, our customers have the greatest purchasing power of any people in the world. If we want the gas industry to get its share; if we want the families of this country to use gas for the four big jobs, *we're* going to have to tell the wife.

The Right Start

We have already begun to do that in the right way. Our manufacturers are producing and we are trying to sell new, efficient and styled-to-the-minute equipment. The progress being made in the development of the Certified Range is indicative of the desire within the industry to get out in front. Most important is the National Advertising Campaign. We are telling the wife, by means of advertising and news feature stories in the leading magazines of this country, the things she should have been told a generation ago. We are putting Gas right up in the front rank with the other leading products she tells her husband about today.

But, in this great battle today for a part of the consumer's dollar national advertising is comparable to a barrage in advance of attacking troops. The big guns are essential. But they will not win the war by themselves. Attacks must be planned every step of the way. And every step planned must be coordinated with every other step. It is that sort of coordination of all advertising and merchandising and selling forces that puts a product or a service across—that makes a wife tell her husband.

Thus far, we have not shown the intelligence to step out courageously with a fully coordinated advertising, merchandising and selling plan of the sort that is continuing to bring such excellent results to our competitors.

A National Event

Why can't we have a *National* Old Stove Round-Up, tied with our National Advertising Campaign, tied in with the Mystery Chef radio program, tied in with each operating company's local newspaper advertising, backed up with out-door poster advertising and direct-by-mail pieces, home service demonstrations, cooking schools and sales drives. Then we would have something. And the wife would tell her husband that she wanted to get that 15-year-old relic out of the kitchen.

Then take the automatic storage-type gas water heater. The gas refrigerator. House heating. There you are—*gas for the 4 big jobs.* We *have* a real story to tell. And what a story the wife could tell her husband!

But there are still too many companies that have not yet learned the value of such coordinated effort. For example, we have not begun to sell the low-income customer the use and the convenience and the economy of gas as a fuel. In all of the principal countries abroad gas companies provide equipment on a rental basis or sell it on very low monthly terms. They provide water heaters that heat water at the point of use, gas cookers, radiant fires, heatrolas, wash boilers, gas circulators for drying clothes, and thus develop loads through prepayment meters that we calmly let go to coal, wood, kerosene and other fuels.

We have the equipment to offer. But how can the wife tell her husband? We don't even tell the wife.

How about the small automatic water heater that can be installed at the point of use for washing dishes, or for baths, that requires little piping and is low in both initial cost and in operating cost. Then there is the Handi-Flow, No-Tank or kitchen sink water heater. There is the two or three gallon kitchen sink storage heater made in England. There are space heaters for auxiliary heating throughout the home throughout the year; cabinet heatrolas, floor furnaces, laundry stoves, gas heated washers, dryers, ironers; and the three-purpose stove that cooks and heats water and can also be used to heat the kitchen in cold weather. Let's talk about them and get them working for us.

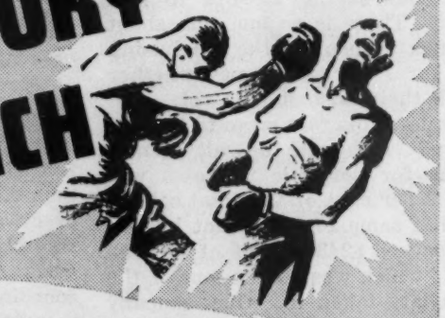
These are for the immediate present and can be used to build load among that large proportion of our customers using little if anything more than the minimum. For the future we have air conditioning, i. e. heating, cooling, humidification and dehumidification.

Salesmanship Defined

The operation of a gas company is no longer pipes, pressure and perspiration. Today we must include salesmanship. And by salesmanship, I do not mean just a few more improperly paid, untrained men going around with the title of salesman, but that modern type of salesmanship which coordinates the efforts of executives, sales force, all other employees, together with dealers, and which contemplates insurance of continuing service and profits for tomorrow as well as the immediate sales of today.

In that connection it is maintained that the future of the Natural Gas Industry must depend for its profits mainly on the development of the residential load. The residential load is the home load; the home load is controlled by the wife; the wife will tell her husband; the husband pays the bills.

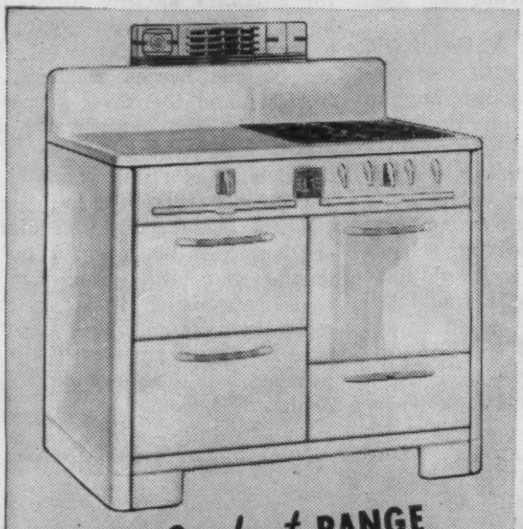
YOUR cp STORY HAS REAL PUNCH



when you build it around the new

cp ROPER GAS RANGE

(COOKING PERFECTION)



THE *Perfect* RANGE for THE *Perfect* FUEL

The C.P. ROPER is truly the highest development in modern cookery . . . offering performance features that spell more sales!

- **17 basic C.P. Roper models. 142 C.P. units ready for delivery.**
- **Proven Performance . . . Roper Gas Ranges meeting C.P. requirements have been field tested in America's homes since Jan. 1st.**
- **Promotional Material all ready for your use. Simply write: "Send complete C.P. promotion plan."**
- **Cash in on C.P. national advertising with ROPER . . . the gas range with nation-wide acceptance for over 52 years.**

GEO. D. ROPER CORPORATION

GENERAL SALES OFFICE AND PLANT: ROCKFORD, ILL.

Chicago: 343 So. Dearborn St.—Atlanta: 901 William Oliver Bldg.—Los Angeles: 2481 Porter St.
San Francisco, Dallas, Kansas City, Newark, Boston, Washington, Cleveland, Philadelphia, Roanoke

USE ROPER SALES PROMOTION PLANS

ROPER RANGES ARE IDEAL FOR USE WITH ANY TYPE OF GAS, INCLUDING BOTTLED GAS

Tags Suggest Proper Care of Gas Ranges to Housewives

GAS companies and dealers have discovered a method of impressing customers with the wisdom of taking proper care of gas ranges. A recent issue of *McCall's Magazine* contained an article giving housewives five simple rules on the care of gas ranges. Some of the gas companies and range dealers inquired as to the possibility of placing this information on a tag to be attached to each gas range as it was delivered to the customer. Arrangements were made and tags printed which read:

McCall's Magazine says:

"This gas range will give better service if you follow these 5 simple rules:

"*Clean clogged ports* in burners of gas ranges with a small wire. Do not use toothpicks or slivers of wood. Wash the grillwork and trays with lukewarm water and a mild soap.

"*Treat* porcelain enamel gently because it is really glass. So clean the range when it is cool, to prevent cracking or crazing of the enamel finish. Wash porcelain with mild soap and lukewarm water. Remember that the acids in milk, lemons, vinegar leave permanent stains.

"*Clean* the oven thoroughly and often to prevent spilled foods or spattered grease from burning into surfaces.

"*Prevent boil-overs* by using low heat as soon as food starts to boil. Most spillage burns itself off.

"*Wash metal*: polish with dry cloth."

Among the gas companies using these McCall tags on their gas ranges are the Illinois Iowa Power Co., Peoples Power Co., Louisiana Power & Light Co., Consumers Power Co., Northern States Power Co., New York State Gas & Electric Corp., Northwestern Public Service Co., etc.

■ ■

Advisory Committee Elected For Gas Co. Sales Division

An Advisory Committee of 13 people has been appointed from the supervisory staff of the Peoples Gas Light and Coke Co., Chicago, for the purpose of discussing problems of supervision, production, and sales development. The new committee, composed of "Captains and Lieutenants," devises ways of obtaining smoother operations and harmony within the sales division as well as in its relations with the rest of the company.

Members of the Advisory Committee are: Karen Fladoes, F. E. Anderson, Ray Fenton, C. A. Gould, C. L. Hess, R. F. John, B. A. Johnson, J. A. Kent, J. W. Parker, R. G. Rees, J. R. Scheel, W. E. Thomas, and James Whammond.

■ ■

Locker Heads Ohio Group

At the sixth annual meeting of the Independent Gas Producers Association of Ohio, held in Marietta, Walter A. Locker, Wooster, Ohio, was elected association president. Directors appointed were: A. D. Townsend, Athens; Thomas Daly, Wooster, and Lloyd Brendel.

SALES SLANTS

A month by month presentation of experiences on the sales front.

A Sales Job, Like Woman's Work, Is Never Done

MORE often than not a salesman considers his job all washed up when he has converted the prospect into a customer. Scarcely before the ink is dry on the dotted line, this kind of salesman has lost all interest in the deal. He is quite happy in the thought that anything that comes up about it from there on can be tossed in the lap of the service or credit department.

It is a wise salesman who knows that the customer is never sold; that the real job of selling comes after a contract or sales agreement has been secured. A sales manager, to illustrate this point, related the following:

"Recently I saw a map prepared by the sales department of a big gas utility. On it were spotted locations in the city where new gas ranges had been installed. The first new range sold in any district was indicated by a red pin and the others were blue. The thing that interested me was the way the blue pins clustered around the red ones, indicating that one new range in any neighborhood was sufficient to sell a dozen in the vicinity.

"Now the point I make is this: a satisfied, happy customer is a salesman in himself. Having purchased a new range, he is proud of it, boasts of its performance, brings friends and neighbors in to see it, urges them to buy one, too. You, as a salesman, can capitalize on that provided you have maintained contact, have earned the sustained good will of the man you sold in the first place.

"Just the other day the credit department came to me with a beef about one of the boys in my organization who, they claimed, had made a verbal agreement with a customer which was causing them a lot of grief. They had tried to get him to go out and straighten the matter out with the woman, but he took the position that he had made the sale and it was up to the credit department to collect.

"I got hold of this salesman, and told him to get on his bicycle and see this party. He came in a couple of hours later grinning all over. He had not only got his customer all straightened out, but she had put him on to two neighbors who wanted to buy gas ranges, and he figured that by the time he got through with that section he would sell a half dozen more. If he had followed the original sale through as he should have done, and made sure the woman was completely satisfied, he would have been working that district a month ago.

"It probably comes down to this in the last analysis: a salesman's greatest asset is his contacts, and once he has established a contact he should nurture it and cultivate it as he would a delicate plant. A contact who is likewise a customer is just that much more valuable: he will be a booster for your product and incidentally a booster for you. If you have made yourself a friend by selling him a range, be sure you keep his friendship."

■ ■

Central Illinois Light Co. Conducts Radio Program

The Springfield division of the Central Illinois Light Co. commenced a series of half-hour weekly radio programs on July 5. The new series is entitled "The Soul of the City" and presents each week a dramatization of an interesting feature of the everyday life of Springfield. At the 15-minute period a company official presents a short talk. A. D. Mackie, Springfield vice-president of the company, was the initial speaker.

■ ■

Zenith Has New Location

The Zenith Gas System has planned to move company headquarters in Alva, Okla., to a new location on College Ave. in that city. The move will take place on June 1. The first floor of the new headquarters will be devoted to offices and the second floor will house the filing and bookkeeping department.

How Did He Know He Was Bawling Out a Prospect

THE salesman, who figured in this incident, still blushes when it is brought up in his presence.

He was hurrying in his car to keep an early appointment with a gas refrigerator prospect. Ahead of him, in the center of the street was a horse drawn milk wagon heading for the stable.

There was plenty of room to pass the milk wagon on the right, in fact, it would have been dangerous to try the left due to traffic from the opposite direction. Just as the salesman was drawing abreast on the right, the milk wagon suddenly lurched over the curb, and to avoid a crash, the hurrying salesman turned quickly on the sidewalk, and narrowly missed a couple of pedestrians and an ornamental street light. He had time to note the nodding head of the driver of the milk wagon, who, tired out after delivering milk all night, was sound asleep.

The salesman had been a top sergeant in the army during the war and orated at length for the benefit of the startled milk delivery man, on the over proportion of bone in his head and the inferiority of his ancestors.

Uninjured himself, the salesman then proceeded to keep his appointment, and had a very cordial and pleasant interview with Mrs. Prospect, who, however, wouldn't sign the sales order until her husband arrived, and he was expected any minute. The husband entered. He was the sleepy milkman. The sales order was never signed.

The salesman admits he learned a lesson, which, though costly at the time, has proved its subsequent worth.

A Drama from Sales Life

ACT I

(SCENE: *A co-operative gas appliance dealer's store in the south. The proprietor and a gas company salesman are talking things over.)*

Salesman: But, I'd like to help you sell some more gas refrigerators.

Proprietor: Can't be done! Everybody's got a refrigerator o' some sort around here. I know because I'm in business here and I know everybody and what they've got.

Salesman: But surely . . . .

Proprietor: Listen young feller. If you're foolish enough to waste your time and money trying around here, I'll bet you a new hat you can't sell three jobs in this durned burg in the next 30 days.

Salesman: It's a bet.

(Curtain)

ACT II

(SCENE: *A customer's home and a group of women are eagerly discussing a new gas refrigerator recently installed. The salesman has just completed a demonstration.)*

First Customer: When can I have my gas refrigerator installed?

Salesman: As soon as the shop can get around to it.

Second Customer: And mine?

Third Customer: And mine?

Salesman: I'll do all I can to take care of you as fast as we possibly can.

(Curtain)

ACT III

(SCENE: *Same as in Act I and less than 30 days later. The salesman enters.)*

Proprietor: Well, and what can I do for you today, young feller?

Salesman: I thought you'd like to see the new hat you've bought for me.

Proprietor: You sold three gas refrigerators and I'd have bet all I've got that it couldn't be done.

THE END.

Moral: It can be done if you refuse to believe the "Wise guys" who say it can't.

■ ■

More Than 24,000 See Happy Home Reviews in Mississippi

More than 24,000 persons attended the Mississippi Power and Light Co.'s 1938 Happy Home Review and Cooking school, held in more than 10 communities during the three months period from April 1 to June 30. The purpose of the home reviews and cooking schools has been to pave the way for gas and electric appliance sales throughout company territory.

Fannie Mae Izard, home service director for the Mississippi Co., with the assistance of eight other members of the home service edpartment, has carried on the reviews. Appliance dealers have cooperated with the company by maintaining booths and displays at the shows.

Ohio Co. Offers Bogus Money In Employee Sales Contest

IMITATION money is now at a premium among the employees of the Cincinnati Gas & Electric Co., Cincinnati, Ohio; the Union Light, Heat & Power Co., Covington, Ky.; and the Middletown Gas & Electric Service, Middletown, Ohio, for this month the Employees' Money Exchange Cooperative Sales contest, a feature of the companies' gas house heating sales campaign gets under way. Each imitation dollar, however, will be exchanged for a legal dollar at the close of the contest on November 1. E. R. Rothert is new business manager for the companies.

The quota set for the drive is 250 house heating installations, amounting to a total of 62,500 M c.f. All installations of conversion burners, furnaces, boilers, circulating heaters and space heaters that result from prospects turned in by employees will count in the contest. Credit for five M c.f. will be given a space heater, while 10 M c.f. is the value of a circulating heater. For each 250 M c.f., an employee will receive an imitation dollar, and for each five imitation dollars, he will receive a one dollar bonus. A bonus of three extra notes will be given the employee having the highest number of notes of five or over.

Monetary value of the notes will be set at one dollar, based on the quota. Value of the notes may be above or below par, depending on the ratio of the M c.f. sold to the 62,500 M c.f. quota. If, for example, 300 installations totaling 75,000 M c.f. are made, each note will be worth $1.20.

■ ■

Home Study Students Are Offered Prizes By A.G.A.

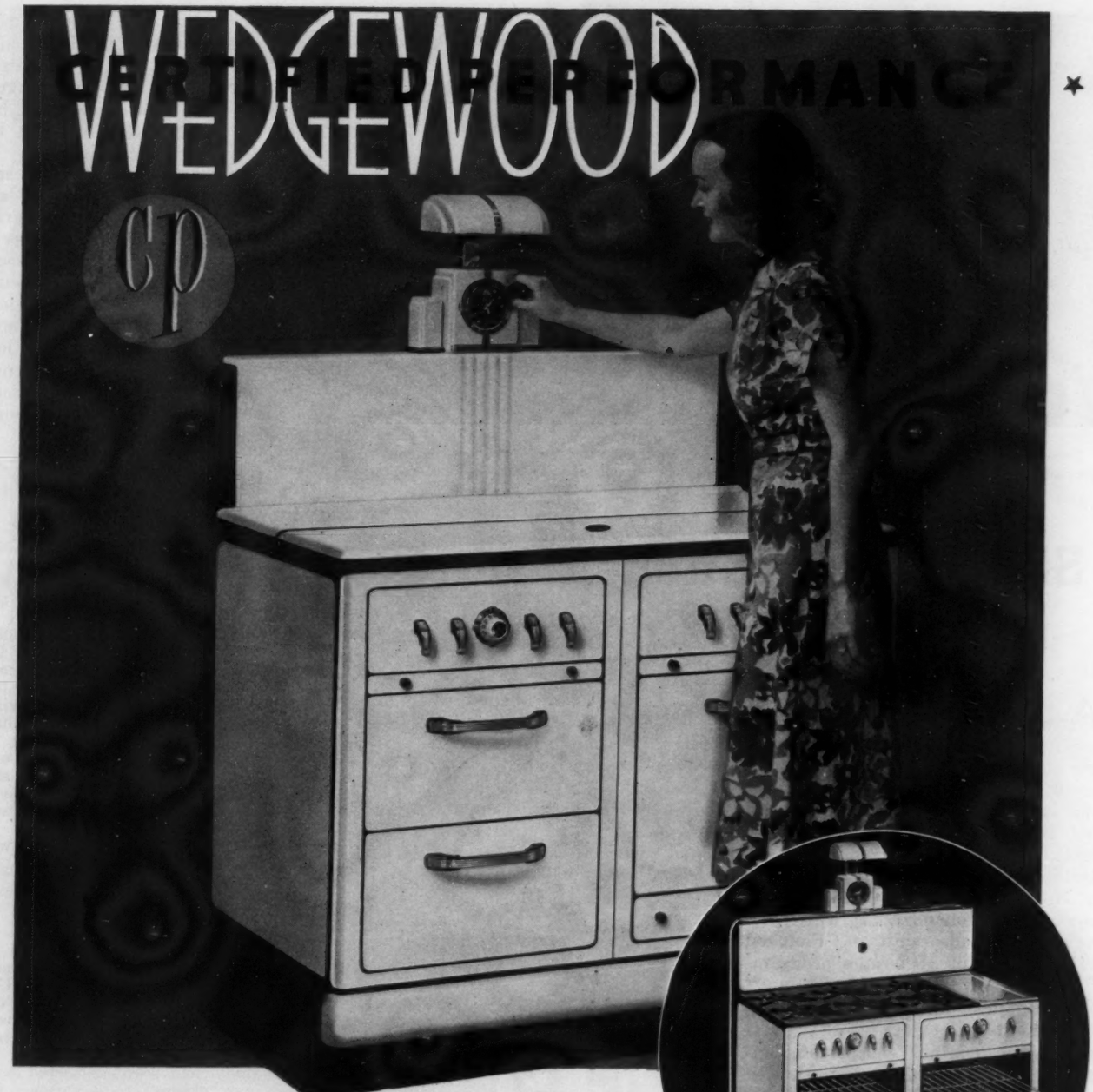
The A.G.A. Committee on Personnel Practices is offering two prizes of $50 each to be presented to the student completing the home study course on American Gas Practice offered by Columbia University and to the student completing the home study course on natural gas offered by the University of Kansas during the year from September 1. 1938, to September 1, 1939. Paul W. Herring, Peoples Gas Light and Coke Co., Chicago, is chairman of the committee.

The selection of recipients will be made by educators conducting the courses—Prof. Jerome J. Morgan for Columbia University and Prof. C. M. Young for University of Kansas. Both courses are sponsored by the American Gas Association and are supervised by advisory committees made up of eminent gas engineers appointed by the Association.

■ ■

Gas Service Co. Promotes Conversion Burner Sales

The Gas Service Co., Kansas City, Mo., has inaugurated a load building program in which it hopes to add 1500 conversion burners to the various company lines, according to an announcement by the company's new business department. Salesmen are offering customers a fully automatic conversion burner for less than $2.00 per month. This load building project is a part of the Gas Service sales department's annual July and August heating campaign.

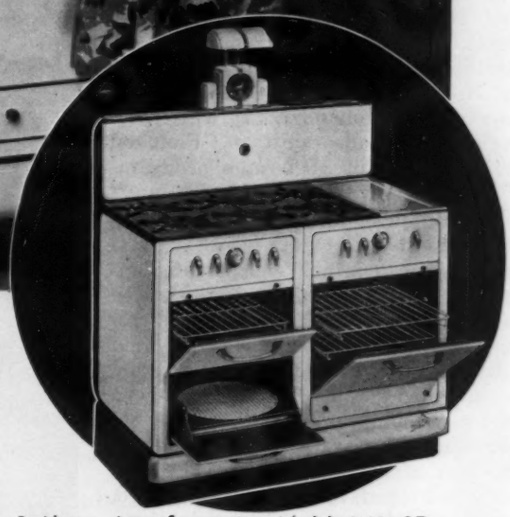


SIX BURNER, DOUBLE OVEN MODEL

★ This newest Wedgewood *more* than meets CP requirements which call for fully automatic operation, fast heating or slow cooking ovens and top burners, heavy insulation, smokeless broiling, roller bearing drawers and oven heat control.

IN ADDITION TO CP REQUIREMENTS THIS WEDGEWOOD OFFERS . . .

- FLUSH-TO-WALL CONSTRUCTION
- RECESSED SOLID BASE
- FOLDING COVER TOP
- SEPARATE PASTRY AND BAKING OVENS
- 6-BURNER OPEN OR CLOSED TOP
- REMOVABLE ALUMINUM GRIDDLE
- 3-SECTION PORCELAIN ENAMEL TOP
- DISTINGUISHED STYLING



• **Above view of open-top Model 4685 OT** shows detail of large Hi-Speed Lo-Temperature Roasting Oven and separate Pastry Oven that light themselves . . . smokeless Astogril Broiler that sears steaks both sides at once saving all juices . . . 6 Speed-Plus-Simmer Burners light themselves (2 Giant Super Speeds) . . . Porcelain Enamel Top in 3 sections for easy cleaning.

Uses natural, manufactured or bottled gas.

WEDGEWOOD **THE MODERN GAS RANGE MAKES FRIENDS FOR GAS**

JAMES GRAHAM MANUFACTURING CO. • SAN FRANCISCO, LOS ANGELES, NEWARK, CALIF.; PORTLAND, ORE

From this traveling all-gas kitchen, white and streamlined, Miss Ann Lee, home economist, presents demonstrations, dramatizing the story of gas, throughout the Southern California territory.

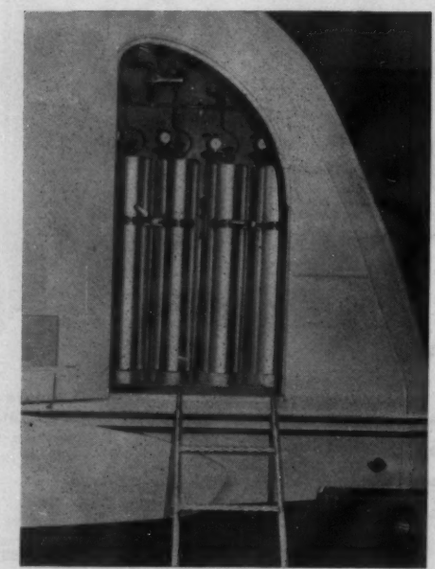
Streamlined Kitchen Starts Travels in California

A MODERN all-gas kitchen mounted on wheels, to be used as a cooking school stage, is a unique departure in gas promotional activity. Brain child of Frederic Beck, Los Angeles market advertising counselor, this traveling demonstrator will be used in Kitchen College classes in Southern California, to be presented by Miss Ann Lee, well known newspaper home economist. It will carry the name sponsorship of Fletcher Wiley, conductor of a radio program, "The Housewives Protective League."

The kitchen, housed in a streamlined steel body is mounted on a GMC truck. Its original equipment consists of two gas ranges, a gas water heater, a Servel Electrolux gas refrigerator, Monel metal sink and drainboard and metal cabinets. Fuel is supplied from four oxygen-type tanks of compressed natural gas located in a separate compartment at the rear of the body. One side of the body is hinged, and, on being opened, forms a platform for demonstrations.

Interesting features of the traveling kitchen include a platform counterbalanced with springs, which may be raised and lowered by one man. Jacks are provided to take weight off truck springs and level the body so that range ovens will be level for cooking demonstrations. Water supply for automatic water heater and sink is secured through garden hose connection. Electricity for floodlights, public address system, general lighting and ventilation is supplied by cable connection to market switch. Ventilation is secured in kitchen proper by forced air system.

The unit was placed in service on July 21, making three stops a day at designated major markets in the Los Angeles vicinity. At each location a tent seating 600 people was set up with traveling kitchen. Fifteen markets are in the first group to be visited, each market to have six classes a week apart. It is estimated that during a year the advantages and benefits of natural gas will be presented through this medium to fully 300,000 women.



Compressed natural gas is used to fuel the appliances. Shown above is the compartment in the rear of the truck where the oxygen-type tanks of gas are located. The ladder is carried in a rack on the door.

The kitchen was built under the supervision of the Natural Gas Bureau of Southern California. Its operations will be directed by Frederic Beck, the traveling unit being leased to him. In addition to the novelty of the idea of a traveling kitchen, not a little of its advertising value is expected to accrue from the attention this beautifully designed and constructed unit will attract as it goes from place to place about Southern California.

■ ■

Kansas Industrial Gas Co. To Lay $5,000,000 Line

Lloyd D. Burton of Chanute, Kan., announced Saturday, July 16, that a survey will start immediately for a 550 mi. natural gas line to run from the Hugoton gas producing district, and to cross the state of Kansas to the east. Mr. Burton will incorporate Kansas Industrial Gas Co., to build and operate the line, the cost of which is estimated at $5,000,000. The contract for laying the line has been awarded to Turman and Smith of Eldorado, Kan.

The Kansas Industrial Gas Co., will handle gas for industrial use only, starting with a gathering system in Stevens, Morton and Grant Counties, Kan., and extending the transmission system to Kansas City, Kan., where the fuel will be distributed to industrial plants.

■ ■

Oklahoma Natural Elects Daniels Vice-President

At a meeting of the Board of Directors of the Oklahoma Natural Gas Co., Tulsa, C. U. Daniels, formerly of Fort Worth, Texas, was elected vice-president in charge of operations. His appointment became effective June 15.

Mr. Daniels has been connected with oil and gas producing operations for more than 25 years; for most of this time he has been an independent operator in the Mid-Continent area. In 1927 and 1928 he was in charge of the Land Department of the Sinclair Oil and Gas Co. in their Texas-New Mexico Division. In 1928 he resigned this position to become a private operator.

■ ■

Stanton, Mich., Grants Natural Gas Franchise

Citizens of the city of Stanton, Mich., at a special election on June 27, cast a vote of 191 to 10 favoring the granting of a natural gas franchise to Edward C. Dailey, of Flint, Mich., who financed the election.

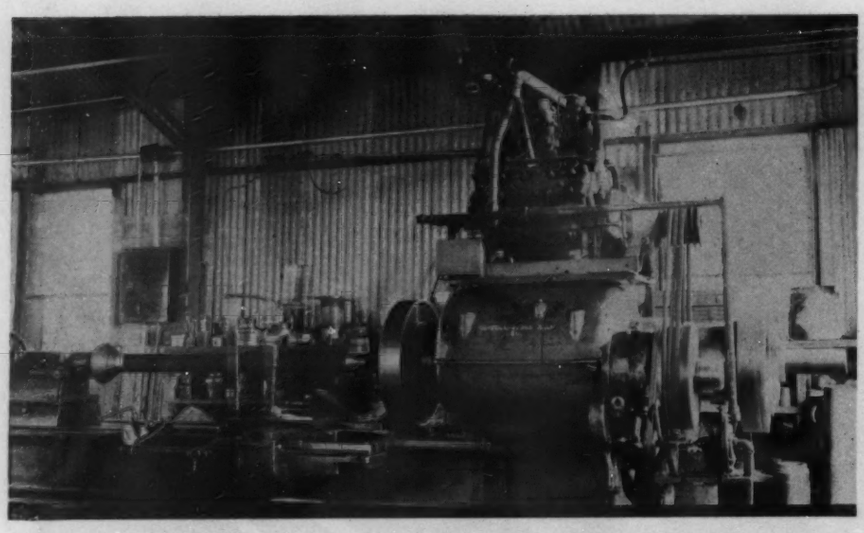
Mr. Dailey has a contract calling for the natural gas from the Waite Stephens No. 1 in section 36, Home township, Montcalm county. He plans to utilize gas from this well in bringing natural gas to Stanton. The Stephens No. 1 has a daily flow of 1,135,000 ft.

Robertshaw greets the C. P. Range and congratulates the Industry on its achievement in certified performance.

The full significance of perfection is understood by Robertshaw who, in turn, has worked towards constantly greater perfection in oven-heat-control.

The performance of Robertshaw Oven-Heat-Control is likewise certified—by its history of wide acceptance and national reputation. The perfection of Robertshaw Controls has made them worthy companions to the Industry's *finest* ranges.

ROBERTSHAW-THERMOSTAT COMPANY · Youngwood, Pa.



A gas-powered Ford V-8 automobile engine is used by the Armstrong Iron & Machine Works Co. to drive the lathes in its Fittstown, Okla., shop.

Gas Engines Used to Power Tools in Oil Field Shop

By J. C. ALBRIGHT Staff Correspondent

THE American Iron & Machine Works Co., which operates oil field shops in various fields in the south and middle west, has a shop in Fittstown, Okla., almost in the heart of the Fitts oil field, which was built in the early life of that field to service equipment used for drilling and in production of oil and gasoline. A complete service station is operated which carries several lathes to recondition drill pipe, tool joints, fishing tools and the like, with welding units and such equipment as necessary to care for products which are manufactured by the company, and handle any class of equipment used in the oil field.

When the plant was built a few years ago, the lathes and other tools were powered with the usual pulleys and sheaves for electric motor drive. Due to the location of the shop, and the frequent thunder storms in the spring and early summer, power interruptions were a common occurrence. Motors were therefore disconnected and gas engines installed.

Individual Engines

In the place of a single, large gas engine which is usually found in shops and factories for power generation operating through line shafts and power take-offs, each lathe in this shop is equipped with an individual gasoline engine converted with adequate mixers to gas for power. These engines are standard Ford V-8 automobile motors, including generators, self starters and ignition systems taking current from storage batteries. As several of these engines are used in the same building, a common cooling system takes care of the water circulating through the engine jackets, which is handled with the pump installation originally included with the engines. On the engines used continuously on the larger lathes, an auxiliary booster pump takes suction on the water supply, and delivers it through the jackets to the pumps which are regular equipment, thus decreasing the temperature of the engine to maintain efficient operation.

Each engine has its original exhaust manifold, but each side is connected to a common exhaust pipe which carries the burned gases through the walls of the building to the atmosphere. These pipes, suspended from roof girders, are high enough to clear any work being handled in the shop, and do not interfere with hoists and pipe cranes handling long joints of drill pipe.

As seen above, the engines used to drive the lathes are mounted above the gear case of the machines, upon a substructure of angle iron which is made up in the shop to be applied to the particular machine being operated. Power transmission is obtained by the attachment of a driving sheave attached to the clutch shaft, in place of the original transmission gear case. The driven sheave is attached to the driving shaft of the lathe, in place of the belt pulley usually attached for belt drive. Both sheaves have several grooves to take as many V-belts as required, and also such auxiliary equipment as cutting oil pumps, booster water pumps, etc.

Speed Easily Adjusted

The size of the driving, as well as the driven sheaves is calculated to provide an adequate speed of the lathe under all cutting conditions, when the engine is operating at normal r.p.m., but the speed of the engine is easily adjusted with a hand throttle which is within easy reach of the machinist. Each engine, of course, is capable of applying much more power than required under ordinary conditions, and is, therefore, operated at speeds well below the maximum output, so that undue strain will not be applied to bearings, sheave blocks, and the like.

For auxiliary duty, a similar gasoline engine is operated, using natural gas for fuel, and installed at one side of the building. It also is mounted on a steel substructure, well above the floor and attached by V-belts and grooved sheaves to an electric generating machine for shop lighting and operation of small grinding wheels and other tools, such as portable drills and buffers. Air is also compressed for use in the shop for cleaning such equipment as may be necessary, and is also operated with this engine.

Gas for fuel is obtained from a distribution system through a line leading to a common header, which in turn branches to each engine after the gas is reduced to the pressure required for efficient mixing. Ensign gas carburetors are attached to each engine on the air pipe of the gasoline carburetor, and all piping, due to the location of the fuel mixers, is overhead.

These engines have been used in the shop for several years, and like all oil field shops, material must be reconditioned in record time without regard to shop tools in many instances. The power delivered to the lathes and other machines has been without major interruptions, and all adjustments and repairs to engines are made during slack hours. The cost per horsepower hour delivered to the machines by these engines can be calculated upon the price of gas, which may vary from field to field, but in this installation was satisfactorily low.

. . . Because LUSTERLITE

IS THE CERTIFIED PERFORMANCE ENAMEL

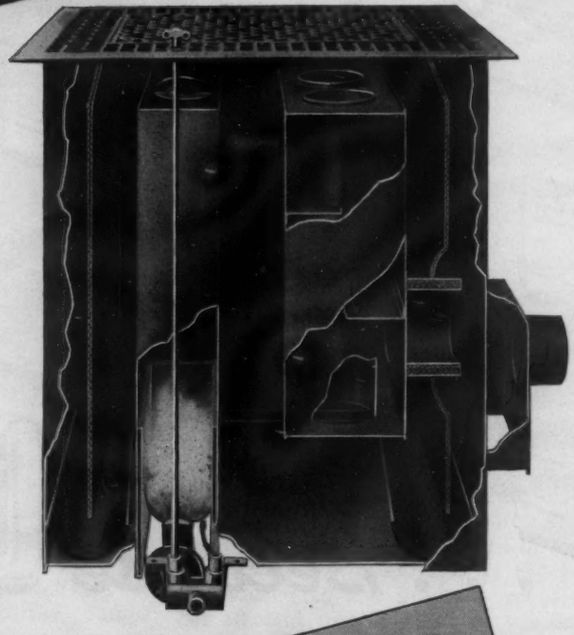
● Steadily, year by year, more and more range manufacturers have learned that for *certified performance*—there is LUSTERLITE enamel. Already half of all C-P range manufacturers use LUSTERLITE • • • And once a manufacturer gets acquainted with LUSTERLITE (its unfailing uniformity for the purchasing agent, its extreme workability for the plant superintendent, and its lustrous finish for sales appeal) he also learns of "Chicago Vit" service—an item that has saved literally tens of thousands of dollars for manufacturers in 1937 alone! • • • For *superior* enamels and *superior* service, specify Chicago Vit's LUSTERLITE—the certified performance enamel.

CHICAGO VITREOUS ENAMEL PRODUCT CO.

1405 SOUTH 55th COURT • CICERO • ILLINOIS

TODAY'S WARD FLOOR FURNACE IS THE RESULT

It's



IN 29 YEARS YOU LEARN A LOT ABOUT FURNACE BUILDING

Here is one of those "Family Album" pictures taken in a corner of the old Ward Heater Company factory away back in the days when Ward Floor Furnaces were known in few places except Los Angeles where the first of them was built in 1909.

Today there are 350,000 Wards in use and they are being sold in increasing numbers by utilities and dealers wherever gas is available.

Yes, you learn a lot about furnace building in 29 years . . . and we are proud to say that you cannot find a more efficient, more durable or more satisfactory heating appliance for use with your gas than the 1938 completely automatic Ward Floor Furnace.

We will be glad to prove that to you if you will ask us.

YOUR LOAD IS AS GOOD AS THE APPLIANCE YOU SELL!
Sell the Best..

WARD

WARD FLOOR FURNACES ARE GUARANTEED

OF OVER A QUARTER-CENTURY'S EXPERIENCE

Completely Automatic!

These pages contain some facts about the WARD FLOOR FURNACE. But the most important facts about the WARD FLOOR FURNACE to you, as a gas company merchandiser, are these two:

First: The WARD is completely automatic, which assures the satisfaction of your consumer with the economy and efficiency of gas for space heating.

Second: It is permanent equipment that becomes a part of the house and permanently builds and protects your load.

WARDS are being sold this year by more utilities than ever before in the 29 years of our history. Wouldn't you like to have more information about their load-building, profit-building possibilities?

We'll be glad to send you catalog, price lists and complete details.

WARD HEATER COMPANY

LOS ANGELES, CALIFORNIA

Representatives

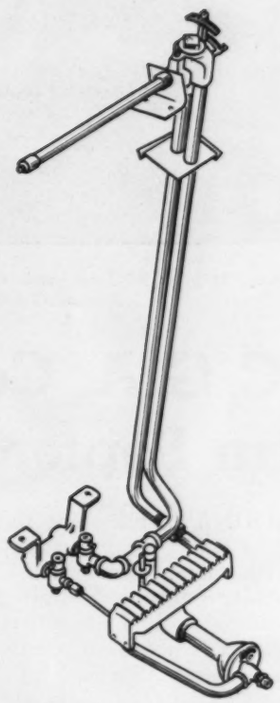
J. H. STUBBINS
300 East 68th Terrace
Kansas City, Missouri

W. D. ROBERTS
468 Peoples Gas Bldg.
Chicago, Illinois

A. S. KINCAID
2012 North Harwood
Dallas, Texas

H. C. SANDERSON
207 Fulton Building
Pittsburgh, Pennsylvania

J. N. DOYLE
1827 Forest
Denver, Colorado



THIS IS WARD'S BILT-IN THERMO-CONTROL ASSEMBLY

This is a drawing of the exclusive Bilt-in Thermo-Control assembly which is the reason why the Ward Floor Furnace gives completely automatic service. At top of picture is the heat control indicator which fits into a corner of the floor register. Below that is the thermostat which is built into the furnace. No wires to run. No installation problems. At the lower end of the assembly is the Safety Pilot (which automatically checks gas flow if flame is extinguished), manifold, bunsen type burner and main gas valves. The Ward Floor Furnace is compact, complete in itself, with no external parts.

FLOOR FURNACE

FOR TEN YEARS...BUILT TO LAST A LIFETIME

The Santa Barbara Biltmore hotel, scene of the Pacific Coast Gas Association's 45th Annual Convention, September 14 to 16.

P. C. G. A. Committee Heads Plan September Convention

PRELIMINARY plans for the Pacific Coast Gas Association's Forty-fifth Annual Convention, meeting at Santa Barbara September 14, 15 and 16, were laid at a luncheon gathering of convention committee members in Santa Barbara on Monday, June 27. Present, in addition to George W. Smith, manager of Southern Counties Gas Co.'s Santa Barbara District and General Chairman of the Convention Committee, were the following: Clifford Johnstone, managing director, Pacific Coast Gas Association; A. B. Combs, properties committee; George Finley, golf committee; W. W. Fitkin, entertainment committee; J. C. Gilbert, attendance and reception committee; R. W. Gregory, transportation committee; E. B. Hanmer, banquet committee; P. E. Kling, registration committee; Clyde H. Potter, hotel accommodations; and J. T. van Rensselaer, acting for Homer Laughlin, Jr., and Otto C. Mauthe, advertising and publicity committees. N. R. McKee, vice president, Southern Counties Gas Co., is president of the Association.

G. W. SMITH

C. JOHNSTONE

This year's headquarters of the Convention, which meets in Santa Barbara for the first time since 1924, will be the beautiful Santa Barbara Biltmore Hotel, where many convention guests will be accommodated. Hotel Mar Monte, near at hand and under the same management, will provide for a portion of the guests.

The convention program will include three general sessions, one each morning, at which many prominent speakers, both of the gas industry and allied fields, will address the assemblage. Specific problems of various departments of the industry will be discussed at afternoon sessions. Men and women of like interests will have an opportunity to meet at breakfast each morning; and luncheons will be accompanied by stunts and entertainment. It is planned to provide dancing and other entertainment for the first two evenings, and Friday evening will be devoted to the annual banquet and ball.

The entertainment committee hopes to arrange conducted trips to historic points for the ladies.

The Annual Golf Tournament for Association members will be held on Saturday morning, September 17, at the La Cumbre County Club, and a challenge has been issued for a skeet shooting, the Seattle members claiming to excel in that sport.

Full information as to reservations, costs and other details is expected to be in the hands of Association members shortly.

■ ■

W. B. Bushnell Joins Staff of Central Service Corp.

W. B. Bushnell, for 26 years actively engaged in the utility business, has joined the staff of the Central Service Corp., Chicago, according to word received from D. C. Green, president. Mr. Bushnell, an engineering graduate of Purdue University, was formerly connected with the Public Utilities Engineering and Service Corp., where his time was devoted primarily to special problems in connection with the purchasing department.

W. B. BUSHNELL

Central Service Corp. is a recently incorporated holding company controlling the $311,000,000 Utilities Power and Light Corp. The company likewise offers an advisory service on public utility holding companies. Mr. Green was until recently president of Middle West Corp., successor to the Middle West Utilities Co., once headed by Samuel Insull.

Besides President Green, other officers of the corporation are E. A. Olson, executive vice president; V. H. Moon, vice president in charge of business development; and Perry Crawford, vice president and former president of American Utilities Service Corp.

■ ■

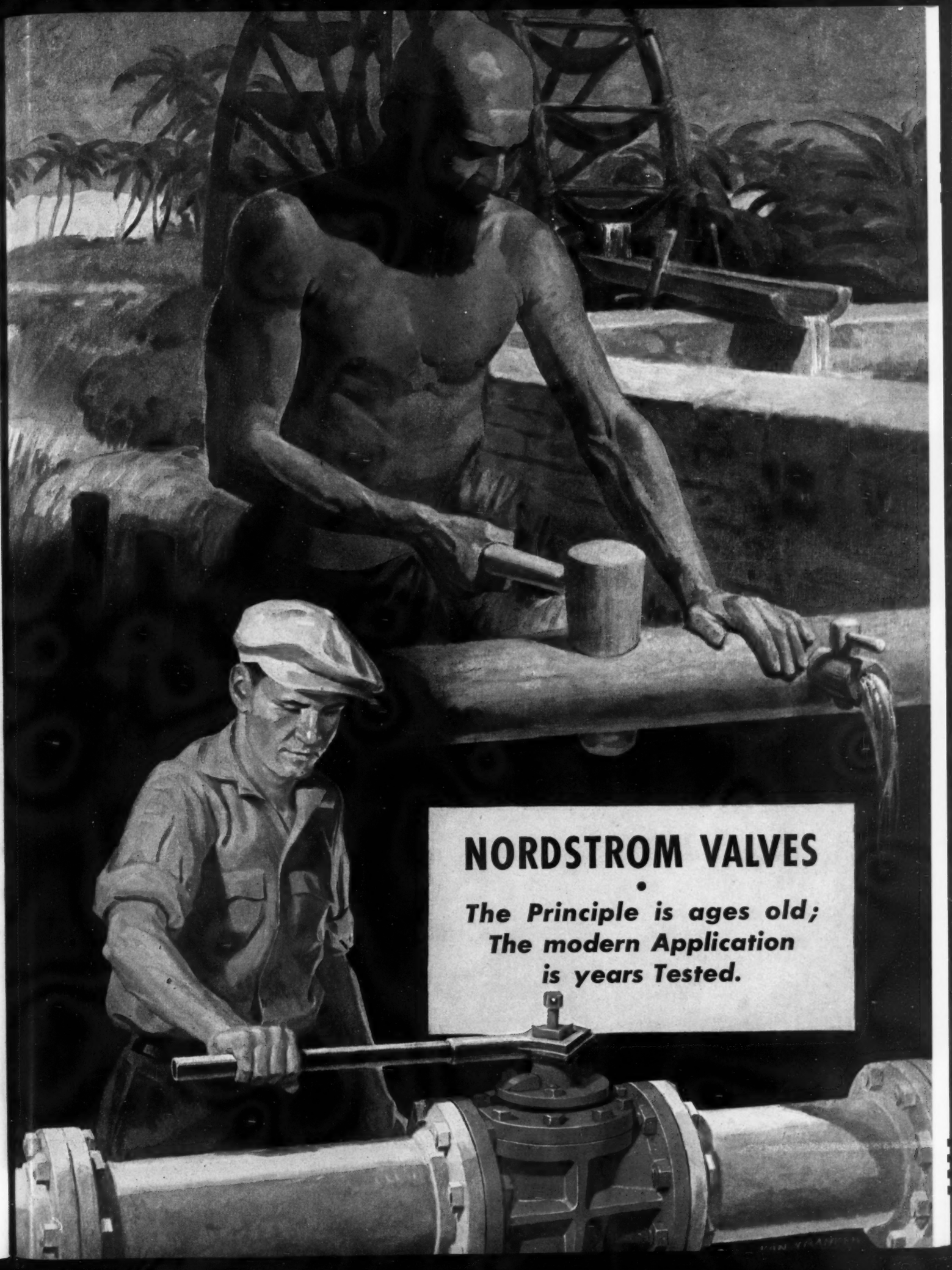
Venezuelan City Plans Natural Gas System

Plans are now going forward for the installation of the first natural gas distribution system in a large South American metropolis, the city of Maricaibo, Venezuela, which has a population of 100,000 and 15,000 homes. It is expected that the principal gas supply will come from recently developed fields within six miles of the city. Present plans call for the laying of 55 miles of distribution mains, which will serve a potential market of 6800 meters.

■ ■

So. Union Utilities Open New Offices in Kingfisher

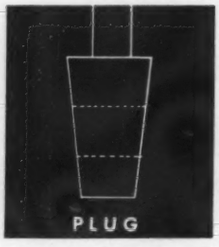
The Southern Union Utilities Co. has recently moved to larger offices in Kingfisher, Okla. The new Kingfisher offices have been remodeled in preparation for the utility company's occupancy. Features of the new location include an indirect lighting system. A display will be set up in the front office.


NORDSTROM VALVES
•
The Principle is ages old;
The modern Application
is years Tested.

The NORDSTROM VALVE PRINCIPLE

is as old as the hills;

ITS MODERN APPLICATION IS AS ADVANCED AS TOMORROW



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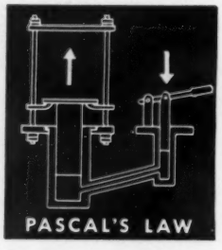

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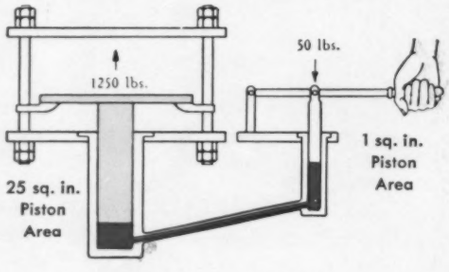
NO MEANS OF CLOSURE is simpler than a plug. Add lubricant and the plug is easier to turn. Add "Sealdport" lubrication and the plug is *always* easy to turn; always sealed against leakage; always tight against its plastic seat. Hydraulic force, effected by merely turning a lubricant screw, raises the plug, should it ever become hard to turn, and instantly frees the plug.

MADE IN A WIDE VARIETY of metals and alloys, Nordstrom Valves are desirable for special as well as general services. Special lubricants are provided.



PASCAL'S PRINCIPLE APPLIED TO NORDSTROMS

PASCAL'S LAW states: "*A unit pressure applied to the liquid contained in a sealed vessel is transmitted to every part of the liquid with undiminished force, thus multiplying the force many times.*" This principle is used in Nordstrom Valves—thus freeing the plug.

SIMPLEST DESIGN
QUARTER TURN
FULL FLOATING PLUG
NON-STICKING
CORROSION-RESISTANT
EROSION-RESISTANT
TEMPERATURES
−150° to +600°
PRESSURES
Tested to 10,000 lbs.
Sizes ½" to 30"

•

PRODUCTS: NORDSTROM VALVES; EMCO GAS METERS and REGULATORS; PITTSBURGH LIQUID METERS

MERCO NORDSTROM VALVE CO.

A Subsidiary of **PITTSBURGH EQUITABLE METER CO.**

Main Office: Pittsburgh, Pa. Branch Offices: New York City, Buffalo, Philadelphia, Columbia, Memphis, Chicago, Kansas City, Des Moines, Tulsa, Houston, Los Angeles, Oakland. Candian Licensees: Peacock Brothers, Ltd., Montreal. European Licensees: Audley Engineering Co., Ltd., Newport, Shropshire, England.

NORDSTROM VALVES

WITH PATENTED "SEALDPORT" LUBRICATION

Only Nordstroms meet every major valve need

Gas Systems for Tombstone and Benson Are Approved

JOHN F. ROSS, city attorney for Tombstone, Ariz., has announced that the regional administrator of the PWA, headquarters in San Francisco, has given final approval for the construction of municipally owned and operated natural gas systems for Tombstone and Benson, Ariz.

Construction will begin as soon as funds have been allotted for the two projects. Application for funds was made during the latter part of 1937 when PWA funds were low, but with increased funds now available an allotment is expected in the near future.

According to the application made by the two cities, the government allotment will be $26,000, $11,000 of which is to be an outright grant, and $15,000 to be backed by revenue bonds issued against the plant and system. It is expected that natural gas will be brought to Tombstone from the line of the El Paso Gas Co., running one and one-half miles north of the town.

■ ■

A.G.A. Discontinues Use Of Name, "Liberty Home"

J. F. Quinlan, director, A.G.A. Home Appliance Planning Bureau, has announced that owing to the existence of prior rights to the use of the name "Liberty Home" and the possibility of prior use of other similar descriptive titles in various states and localities where houses entered in the A.G.A. Architects and Builders Competition have or may be constructed, the American Gas Association is discontinuing the use of the name, "Liberty Home." This decision has been evolved as a means of protection to local gas utility companies sponsoring the contest as well as to the A.G.A.

At a recent meeting of industry executives it was decided to use the following term: "American Gas Association—All-Gas Home" with the slogan "Use Gas for the 4 Big Jobs, Cooking — Refrigeration — Water Heating — House Heating."

■ ■

Northern Natural Gas Co. Plans 39 Mile Pipe Line

The Northern Natural Gas Co., Omaha, Neb., is planning to lay a new 16 in. O.D. natural gas line between Ventura, Iowa, and Albert Lea, Minn. Approximately 39 miles in length, the new line is a partial loop of the existing 16 in. line and will augment the gas supply to the company's present markets.

The pipe will be machine coated with hot enamel at the railhead and wrapped in the field. Pipe will be welded and coupled with a coupling spacing of about 85 ft. Couplings are being supplied by the S. R. Dresser Manufacturing Co., Bradford, Pa.

■ ■

Parish of Lafourche, La., To Be Served Natural Gas

The Police Jury of the Parish of Lafourche, La., has granted to the Gulf Natural Gas Corp. the right and privilege of laying, constructing, and maintaining a system of natural gas mains in the parish. The grant is for 99 years.

This bill board is one of the attractive advertising services offered by the A.G.A. and A.G.A.E.M. in connection with the "Join the swing to heating by gas" slogan campaign. The board has a five color scheme and includes the standard slogan cut.

A.G.A. and A.G.A.E.M. Sponsor National Gas Heating Slogan

THE American Gas Association and The Association of Gas Appliance and Equipment Manufacturers are jointly sponsoring a new slogan, "Join The Swing To Heating By Gas," to increase public acceptance of gas heating. The two sponsors recommend that all utilities and manufacturers tie in with this effort to popularize gas heating.

Since most utilities and appliance manufacturers are spending thousands of dollars in direct mail, newspaper and magazine ads, the two associations feel that both would benefit if there could be one point in common with this great volume of advertising. Serving a double purpose, such a connecting link would associate all such advertising more directly with gas and by the constant, uniform, repetition of such a feature, readers would realize that there is a big swing to gas heating.

This slogan used in every piece of manufacturer's literature and in their newspaper and magazine ads will associate that manufacturer with every ad run by the utility on house heating and vice versa. Many eastern gas companies have started to use the slogan in their 1938 advertising. In addition to using the standard cut including the slogan on all newspaper and direct mail ads, several other ways in which it can be made effective have been devised. Material has already been prepared in quantity and is available at nominal cost for lawn signs, truck signs, display window signs, gummed labels, door knob hangers, lapel buttons, rubber stamps, price tags, book matches, pencils, and billboards.

Lawn signs can be effectively used in front of newly constructed gas heated homes. Builders do not usually object to lawn signs if their name is placed on the sign. A sign is available for this purpose with a plate on which the builder's name can be painted. The lawn sign can also be used to advantage for the replacement heating market. Truck signs can be used to identify the plumber and dealer with gas heating. Metal electric signs, plain metal window signs, and decalcomanias are available for window displays.

The billboard which the sponsors are offering in connection with the slogan campaign is one of the most striking services available. Through its use the national swing to gas can be proclaimed from coast to coast.

This A.G.A. and A.G.A.E.M. sponsored swing to gas marks the first coordinated effort to get mass acceptance of gas heating. All gas companies and heating appliance manufacturers who tie in with it will receive the benefit of every participant's advertising.

The Association has arranged for two sources of supply for the materials mentioned above. The E. A. Shank Sign Co., 21 West 54th Street, New York City, are headquarters for all metal signs such as lawns, truck, window and decalcomanias. The Bryant Heater and Manufacturing Co., Cleveland, has prepared in quantity the other material.

■ ■

Jean Roberts of Tucson Dies

Jean D. Roberts, for 15 years an employee of the Tucson Gas, Electric, and Power Co., Tucson, Ariz., passed away July 23 at San Diego, Calif.

A.G.A. Officers Nominated; "Gas Marches On" Is Theme of Atlantic City Convention

THE Twentieth Annual Convention of the American Gas Association, to be held in Atlantic City, N. J., the week of October 10, will feature the general theme, "Gas Marches On."

George F. Mitchell, president, The Peoples Gas Light and Coke Co., Chicago, is chairman of the General Sessions program committee. Mr. Mitchell and his committee have decided that General Sessions speakers should be non gas industry men.

Among the Convention's main events will be the election of 1938-39 officers. The A.G.A. General Nominating Committee has recently announced the following report which will be formally presented to the Convention in October. Committee nominees are as follows:

President—Conrad N. Lauer, president, The Philadelphia Gas Works Co., Philadelphia, Pa.

First Vice-President—Walter C. Beckjord, vice-president and chairman executive committee, Columbia Gas & Electric Corp., New York.

Second Vice-President—T. J. Strickler, vice-president and general manager, Kansas City Gas Co., Kansas City, Mo.

Treasurer—Ernest R. Acker, president, Central Hudson Gas & Electric Corp., Poughkeepsie, N. Y.

Directors—2-year terms: Arthur F. Bridge, vice-president, Southern Counties Gas Co., Los Angeles, Calif.; Henry L. Doherty, president, Cities Service Company, New York, N. Y.; Frank A. Newton, The Commonwealth & Southern Corp., New York, N. Y.; Frank H. Payne, president, American Meter Co., Erie, Pa.; W. T. Rasch, president American Gas Products Corp., New York, N. Y.; Herman Russell, president, Rochester Gas & Electric Corp., Rochester, N. Y.; N. T. Sellman, assistant vice-president, Consolidated Edison Co. of New York, New York, N. Y.; Marcy L. Sperry, president, Washington Gas Light Co., Washington, D. C.; William G. Woolfolk, president, Detroit City Gas Co., Detroit, Mich.

Nominating committee members are: James A. Brown, chairman; Frank L. Ball, Norman R. McKee, W. Frank Roberts, Frank C. Smith, F. X. Mettenet.

The following members have been nominated by section nominating committees to serve as section officers for the next Association year:

T. R. WEYMOUTH

C. N. LAUER

Natural Gas Department—Chairman, T. R. Weymouth, Columbia Gas & Electric Corp., New York, N. Y. Vice-Chairman—Elmer F. Schmidt, vice-president, Lone Star Gas Co., Dallas, Texas. Nominating Committee: George E. Welker, chairman; William Moeller, Jr., J. B. Tonkin.

Accounting Section: Chairman—H. A. Ehrmann, Consolidated Edison Co. of New York, New York. Vice-Chairman—F. B. Flahive, Columbia Gas and Electric Corp., New York, N. Y. Nominating Committee: H. E. Cliff, chairman; A. S. Corson, F. L. Griffith, E. B. Nutt, J. M. Roberts.

Commercial Section: Chairman—F. X. Mettenet, The Peoples Gas Light & Coke Co., Chicago, Ill. Vice-Chairman—W. W. Winter, Atlanta Gas Light Co., Atlanta, Ga. Nominating Committee; F. M. Banks, chairman; C. E. Bennett, F. M. Rosenkrans, N. T. Sellman.

Industrial Gas Section: Chairman—Frank H. Trembly, Jr., The Philadelphia Gas Works Co., Philadelphia, Pa. Vice-Chairman—Franklin T. Rainey, The Ohio Fuel Gas Co., Columbus, Ohio. Nominating Committee: Ralph L. Manier, chairman; Charles W. Gale, Joseph F. Quinn.

Manufacturers Section: Chairman—Merrill N. Davis, executive vice-president, S. R. Dresser Manufacturing Co., Bradford, Pa.

Technical Section: Chairman—F. M. Goodwin, Boston Consolidated Gas Co., Boston, Mass. Vice-Chairman—A. M. Beebee, Rochester Gas and Electric Corp., Rochester, N. Y. The Nominating Committee: M. I. Mix, chairman.

The opening day of the Convention, Monday, October 10, will be devoted chiefly to committee meetings and business sessions of special interest to members of the natural gas industry. The General Sessions will be held Tuesday, Wednesday and Thursday mornings. Sectional meetings will be scheduled, as usual, in the afternoons. The Technical and Industrial Gas Sections will have three meetings, while the Accounting and Commercial Sections will have two.

Home Service women will repeat their Breakfast Conference. In addition, there will be several luncheon conferences staged in connection with sectional meetings. General Sessions will be held in Atlantic City's Auditorium, sectional meetings in hotels.

CALENDAR

September, 1938

Pacific Coast Gas Association—45th Annual Convention, Santa Barbara Biltmore Hotel, Santa Barbara, Calif., Sept. 14-16.

National Petroleum Association — 36th Annual Meeting, Hotel Traymore, Atlantic City, N. J., September 14-16.

Empire State Gas and Electric Association — Annual Convention, Lake Placid Club, Lake Placid, N. Y., September 15-16.

October, 1938

A. G. A. Twentieth Annual Convention—Atlantic City, N. J., October 10-13.

National Hotel Exposition*—Grand Central Palace, New York, N. Y., Oct. 24-28.

National Metal Congress and Exposition* —Detroit, Mich., October 24-28.

November, 1938

The Institute of Gas Engineers—London, England, November 1-2.

American Petroleum Institute—19th Annual Meeting, Stevens Hotel, Chicago, Ill., November 14-18.

December, 1938

National Exposition of Power and Mechanical Engineering*—Grand Central Palace, New York, N. Y., December 5-10.

* Includes exhibit sponsored by A.G.A. Industrial Gas Section.

■ ■

The "CP" Range—Ideal Ammunition for Salesmen

(Continued from Page 19)

Range to sell. Customers won't have to be button-holed in order to insure interest on their part. A salesman helping a customer choose a "CP" Range will feel confident that he is doing that customer a true service; that his quality product will be of great satisfaction to the new owner. What is more, a satisfied customer owning the latest product men and science can devise is the very best assurance of continued sales.

GET RID OF VENTING TROUBLES WITH THIS PERMANENT FLUE PIPE

Easily installed . . . provided with a complete line of fittings . . . J-M Transite Flue Pipe assures years of economical gas-venting service

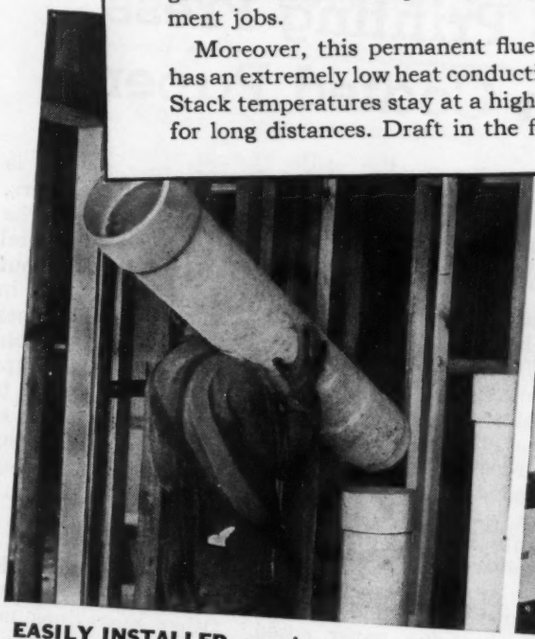
Any complaints lately on flue-pipe jobs? If so, you'll want to know more about Transite Flue Pipe—how it assures lasting, economical service that keeps customers satisfied.

Made of asbestos and cement, Transite Flue Pipe is exceptionally resistant to weather and corrosive fumes and gases. Its great durability under severe service conditions minimizes the danger of troublesome repair and replacement jobs.

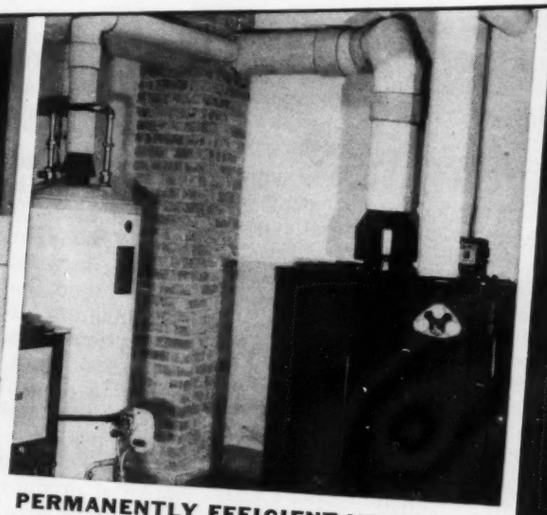
Moreover, this permanent flue pipe has an extremely low heat conductivity. Stack temperatures stay at a high level for long distances. Draft in the flue is consequently improved and condensation is minimized. Because Transite Flue Pipe resists intense heat to a high degree, it keeps fire hazard low and is approved by the National Board of Fire Underwriters.

Installation is relatively simple, even on complicated layouts and in cramped working quarters. For there is a Transite Flue Pipe fitting for every type of job—a range of sizes in both round and oval form.

Considering its many advantages, the cost of Transite Flue Pipe is surprisingly low. Complete details will show you other important features, too. Get the Transite Flue Pipe brochure by writing Johns-Manville, 22 East 40th St., New York, N. Y.



EASILY INSTALLED, even in cramped working quarters, Transite Flue Pipe helps keep jobs from dragging out. And once this durable pipe is up, the job is really *finished*—staying up for years with virtually no maintenance.



PERMANENTLY EFFICIENT VENTING of gas-fired water heaters and boilers is assured with Transite Flue Pipe. Its asbestos-cement composition provides the continued dependable service that builds customer good will.

EXCEPTIONALLY RESISTANT to weather and corrosive fumes and gases, Transite Flue Pipe stands up for years on outside installations. Its low conductivity keeps stack temperatures high for long distances—providing better draft and minimum condensation.

SEND FOR THIS *FREE* MANUAL. *This 20-page book has all the answers to your gas-venting problems. Included are descriptions and detailed drawings of a wide variety of installations—complete information on sizes, weights and prices. For your free copy, write Johns-Manville, 22 E. 40th St., N. Y. C.*

Johns-Manville TRANSITE FLUE PIPE

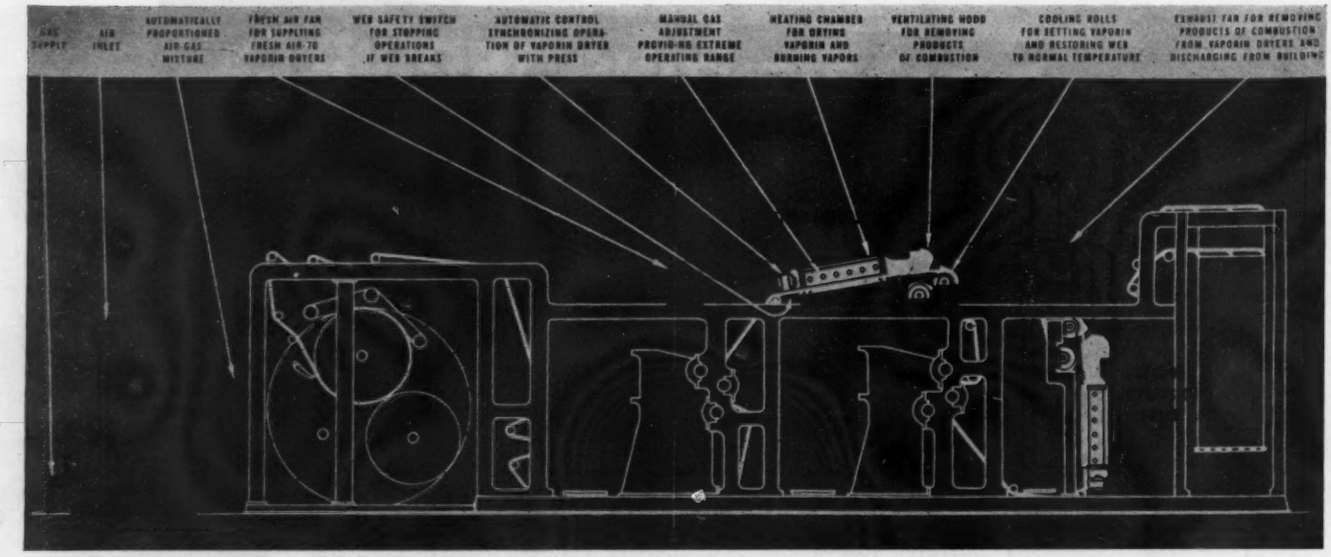

GAS SUPPLY
AIR INLET
AUTOMATICALLY PROPORTIONED AIR-GAS MIXTURE
FRESH AIR FAN FOR SUPPLYING FRESH AIR TO VAPORIN DRYERS
WEB SAFETY SWITCH FOR STOPPING OPERATIONS IF WEB BREAKS
AUTOMATIC CONTROL SYNCHRONIZING OPERATION OF VAPORIN DRYER WITH PRESS
MANUAL GAS ADJUSTMENT PROVIDING EXTREME OPERATING RANGE
HEATING CHAMBER FOR DRYING VAPORIN AND BURNING VAPORS
VENTILATING HOOD FOR REMOVING PRODUCTS OF COMBUSTION
COOLING ROLLS FOR SETTING VAPORIN AND RESTORING WEB TO NORMAL TEMPERATURE
EXHAUST FAN FOR REMOVING PRODUCTS OF COMBUSTION FROM VAPORIN DRYERS AND DISCHARGING FROM BUILDING

Diagram of press equipped with gas heaters for drying ink in the fast printing Vaporin process for slick magazines.

Gas Heater Attached to Printing Press Quickens Ink Drying on Coated Paper

WITH the utilization of gas heat in a new quick-drying printing process and a new coating method for paper, a coated stock magazine like *Life* can be run off the presses at speeds up to 800 ft. a minute. This instant-drying method of printing, called the Vaporin process, was created about two years ago to meet the needs of the weekly slick paper picture magazine, *Life*, which was faced with a rapidly increasing circulation and the problem of speeding up its printing. The newspapers had met the situation by using a highly absorbent paper, but with the aid of three or more industries, *Life's* problem was solved.

First, coated paper had to be delivered in rolls, but practically all of this paper was put up in sheet form at that time. Two paper mills accepted the proposition and finally produced a first-class coated paper in rolls, and, developed, at the same time, a process for putting the coating on the paper in the paper machine, while the sheet was being made.

Second, a method of printing with volatile materials that dried, not by oxidation, but by vaporization, was developed. By introducing a third factor, heat, printing could be dried in split seconds and printed sheets came off presses bone dry without any changes in the presses. A gas heater is attached to the press and the printed page passed through it. If a two-impression press is employed, two gas heaters are used, one after each printing. The hot dry paper is cooled when it passes from the heater over water cooled rolls.

In the design and application of a heating unit for drying the ink, several experiments were made. In avoiding the difficulties of damaging stock, disturbing register, increasing ink penetration, it was found that direct gas heat had the inherent properties that make it exceptionally good for quick drying processes. It is flexible, lends itself readily to accurate automatic control and is almost universally available.

Specially designed gas burners for the heaters employed produce heat in the heating chamber in regulated intensities, with the result that drying is practically instantaneous at various press speeds up to full capacity. With this method, the heat is applied directly to the wet printed side of the paper and quickly vaporizes the volatile portion of the ink.

Control of the heating operation is made as completely automatic as possible. Correct air-gas proportions are automatically produced and delivered in the required volume. The amount of heat delivered can be adjusted to changing speeds without attention by the operator and without affecting the efficiency of combustion. The supply of gas is automatically reduced in starting and stopping the press.

Each of *Life's* printing presses is now equipped with two gas heaters, one for each end of the paper. The gas burners are enclosed in metal boxes as wide as the paper and about four feet in length. There is a slit in each side of the heater for the paper to pass through. The gas burners consist of a series of refractory cups which the burning gas brings up to incandescent heat. Combustion is so fast that no flame touches the paper, but an intense heat of about 1400 deg. F. is attained. So fast is the liquid vehicle of the ink volatilized that it actually bursts into flame.

Today *Life* is printed, dried, folded and bound at what approaches newspaper speed. Other magazines now utilizing this process in their printing include *Cosmopolitan, Good Housekeeping, The New Yorker, Newsweek, The Redbook* and others.

■ ■

Peoples Gas Light and Coke Accounting Official Retires

J. Morgan Roberts, general superintendent of the Customer Accounting Department of Peoples Gas Light and Coke Co., Chicago, retired from company activities on June 30, after 45 years of service. George I. Simpson succeeds Mr. Roberts as superintendent; his appointment became effective on July 1.

Mr. Roberts entered the gas business in 1894 with the Consumers Gas Co. In 1919 he succeeded Paul D. Warren to the position from which he is retiring.

WILL YOU HAVE THIS SIMPLE DISC

or complicated parts

FOR YOUR AUTOMATIC CONTROLS

Take a Klixon Thermostat apart—or a gas valve, or a pilot valve or any other Klixon gas appliance control and what do you find? Magnets or Relays? No! Bellows or Toggles? No! Or other fussy parts? *Never.* For Klixon Gas Controls are operated by the Spencer Thermostatic Disc—a factory calibrated snap-acting disc that provides instant and positive control action at all times. And it is because of this sturdy, simple and dependable disc that Klixon Gas Controls are more compact, more economical to install, easier to service, less affected by vibration and surer to give you trouble-free control on floor furnaces, unit heaters, space heaters or any other gas appliance.

KLIXON

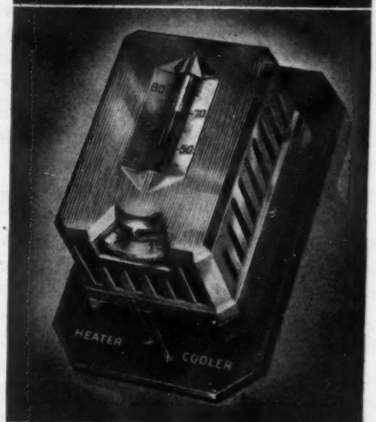
TRADE MARK REG. U.S. PAT OFF.

A Complete Line of Snap-Acting Gas Controls

No matter what their control problems are, manufacturers of gas heating appliances get their best answers from Klixon. For, in addition to making a complete line of snap-acting disc-operated controls, Klixon engineers are always ready to work with manufacturers on their new and special problems. Write for complete information on our disc-operated controls and our modern engineering service.

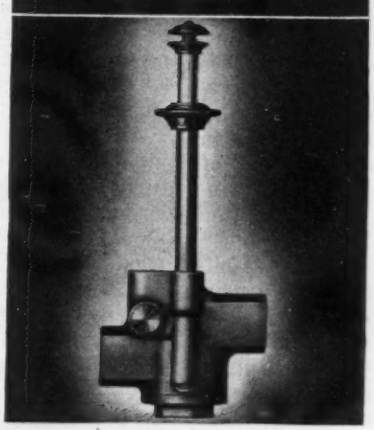
POSITIVE ACTION ELECTRIC GAS VALVE

There is no hum, no chatter, no sticking—none of the troubles you get with solenoid valves—with this Klixon electric gas valve. For it's thermally operated—yet not affected by ambient conditions. It is easy to install. Line or low voltage. Capacities up to 195,000 b.t.u. Sizes up to ¾" I.P.S. Use with Klixon or any other room thermostat.



ROOM THERMOSTATS FOR HEATING COOLING OR BOTH

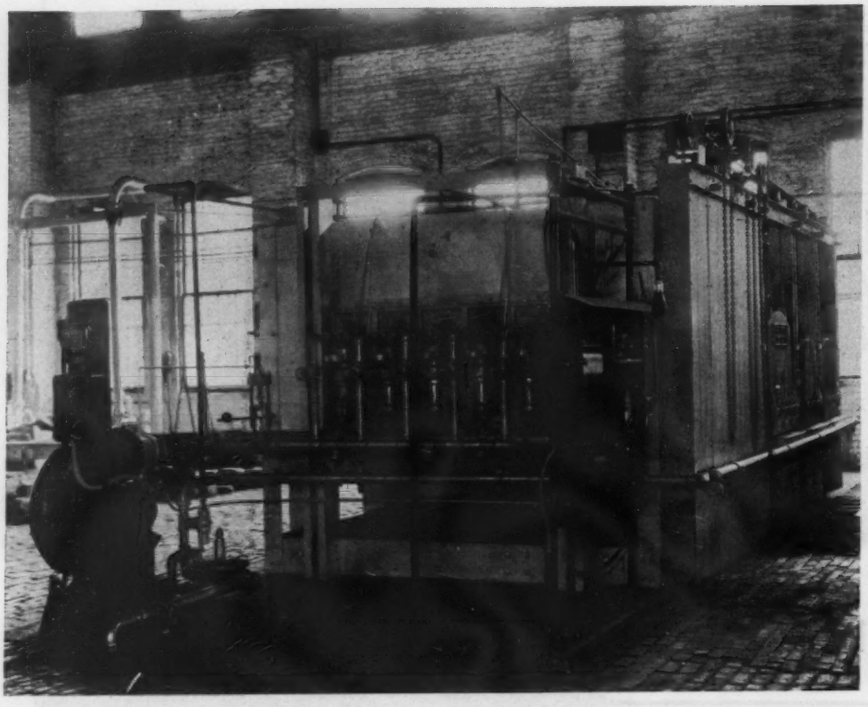
Klixon Thermostats are compact and simple. No complicated parts. No exposed live contacts. Dust-proof. Vibration-proof. Cause no radio noises. Simple installation—saves 8 to 12 dollars on unit heater installation. Many attractive finishes. Come with or without thermometers.



SNAP-ACTING PILOT SHUT-OFF VALVE

Positive operation. Snap-acting Disc acts directly on valve. Wide range of body styles meets all installation requirements. Low in cost. Can be used on all types of gas appliances for natural, manufactured or bottled gas.

SPENCER THERMOSTAT CO., 808 FOREST ST., ATTLEBORO, MASS.



A gas-fired forging furnace, serving a 4-ton hammer at the plant of the Columbia Tool Steel Company, delivering tool steel billets.

Steel Co. Installs Gas-fired Billet Heating Furnaces

THE Columbia Tool Steel Co. at Chicago Heights, which, a year ago, completed a change-over to all gas, all-controlled temperature, and all-controlled atmosphere heating, has now completed the installation of three additional new gas-designed ingot and billet-heating furnaces. According to Arthur T. Clarage, president, the installation was made because of improved results experienced after converting old furnaces to the use of gas.

The new furnaces serve 8,000-lb., 3,500-lb. and 750-lb. steam forging hammers, and have shown improvement in performance, including reduction in scale and in the control of surface decarburization as well as in speed of heating plus accuracy of temperature control. The units embody improvements in combustion chamber design, and in the application of burners and controls. Additional research by Robert G. Guthrie, chief metallurgist for The Peoples Gas Light and Coke Co. of Chicago, and his associate, Dr. Oscar J. Wilbor, who designed the original conversion installation, have resulted in these improvements.

The research was directed chiefly to the problem of complete combustion control. Accuracy of this control has been made possible by two factors—the availability of a supply of natural gas of uniform heating value, and the combustion of this gas, at positive pressures, with a uniform and predetermined air supply.

The new furnaces are of the box type, with a special combustion chamber and a special arrangement of burners and vents. The units are of the portable type, involving a steel underframe resting on but not fixed to a concrete slab which permits expansion and contraction and transmits a minimum of ground shocks to the furnace proper.

Although the overall dimensions run up to 26 ft. long by 12 ft. deep, the furnaces are designed so that they can be jacked up on rollers and moved to new locations should plant practice make this desirable. Having no stacks, and being connected only to gas and air lines and to control instruments which are easily moved, these furnaces are truly portable. The furnaces have heating chambers up to 7 ft. deep and approximately 16 ft. long, with the height of door openings arranged to suit the various sizes of work to be heated. They are lined with the new increased alumina super refractory fire brick backed with light weight insulating brick.

In use, the heating program is an exact schedule determined by the job foreman. By means of a program slate the foreman indicates his instructions for the 24-hour shifts. A recording pyrometer shows whether or not these instructions have been followed and, likewise, continuous gas analysis apparatus shows whether or not desired combustion has been maintained.

Further reduction in gas consumption has followed the improvements in furnace and combustion chamber design and from the utilization of insulation. Insulation has also contributed substantially to the comfort of hammer crews working near the furnace.

An air curtain is installed at each door for protection of the operators. This curtain also serves to cool the door and door frame castings. The furnaces operate at a slight positive pressure, which is the result of the measures taken to control atmosphere. A propane standby has been installed, which makes it possible to change over to substitute fuel at any time without any interruption or furnace adjustments whatsoever.

Incidental to this furnace practice but important in the opinion of the management is the fact that the controlled gas firing makes possible a floored, lighted, comfortable, clean shop, free from soot, scale and cinders. All furnaces and equipment, such as rolling mills, hammers, shears, etc., are kept in a clean aluminum painted condition.

■ ■

Chattanooga Considers New Plans For Natural Gas Line

The Tennessee Natural Gas Co. has submitted a proposal to the Chamber of Commerce of Chattanooga, Tenn., to construct a natural gas pipe line from a large Southern producing field extending through East Tennessee with a line cutting off to serve Nashville and another to Chattanooga. The financing of the project, which would call for an expenditure of $30,000,000 to $40,000,000, has already been taken care of, company representatives have announced.

■ ■

Eastern Part of Nevada, Mo., To Have Natural Gas

Nevada, Mo., has recently granted a new 15-year natural gas franchise to the Missouri Public Service Co. The new franchise includes the extension of natural gas service to the eastern part of the city. Work on the gas system extentions was to start within 60 days following the special election, held on July 12, concerning the franchise question.

The Payne F. A. U. (Forced Air Unit) is one of the most successful salesmen the GAS industry has ever seen.

It *proves* that GAS is the ideal fuel in every home — in every commercial building — it enters.

For the F. A. U. is efficiency itself. In winter it provides a generous supply of warm, circulating air. In summer it obliges with refreshing ventilation.

And it plays this dual role with eye-opening economy. The kind of economy that makes people take pride in their heating appliance — and makes friends for GAS.

The Payne F. A. U. requires only 4 square feet of floor space. It operates from kitchen, closet or service porch. It is another product of America's most modern furnace plant.

The Payne Forced Air Unit.
The first and most efficient small home heating and ventilating unit of its kind ever produced.
Requires no basement.

THE IDEAL FUEL GAS

Payne
FURNACE & SUPPLY CO., INC.
BEVERLY HILLS • CALIFORNIA

THERE IS A PAYNE GAS FIRED APPLIANCE FOR EVERY HEATING NEED

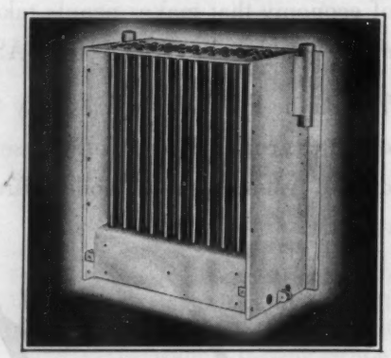
Only HUMPHREY HAVE ALL OF THESE

Be Ahead with the Leader

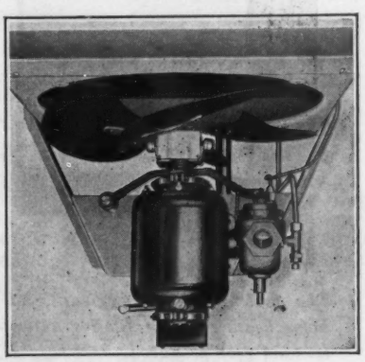
MOST significant in your selection of gas unit heaters are the features that offer the greatest merchandising possibilities and minimize servicing costs. In these important fundamentals for building profitable gas loads the leadership of Humphrey Gas Unit Heaters has always been recognized by gas merchandising authorities. Such leadership came naturally. As originators of gas unit heating, we had a head start. We had licked most of the technical "bugs" before others even knew gas unit heating was possible. As pioneers we were able to select the best of each possible method and incorporate it in Humphrey Gas Units. This, combined with that "never-satisfied" attitude of our creative engineers, enables us to provide you today with the only unit heater that embodies all of these quality features.

- ★ FORCED AIR COMBUSTION BURNER
- ★ COMPACTNESS — up to 30% smaller
- ★ NEW HUMPHREY-BASO COMBINATION GAS VALVE
- ★ NEW THERMOELECTRIC (BASO) SAFETY PILOT CONTROL
- ★ BRASS RADIATION TUBES
- ★ LOCOMOTIVE FIRE-BOX STEEL COMBUSTION CHAMBER
- ★ EASIER SERVICING
- ★ EASIER INSTALLATION
- ★ SMART STYLING
- ★ HINGED BURNER BOX
- ★ RUBBER MOUNTED MOTORS
- ★ STATICALLY AND DYNAMICALLY BALANCED FAN

Cut-away view showing rugged construction and clean cut interior designing.



Locomotive fire-box steel base with brass radiation tubes and steel chassis.



View of motor and fan assembly showing governor and gas valve assembly.

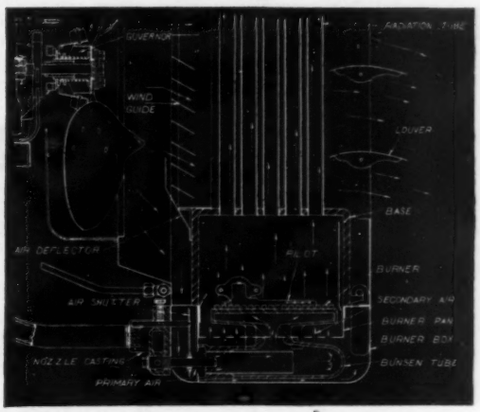
GENERAL GAS LIGHT CO.

GAS UNIT HEATERS

Outstanding Quality Features

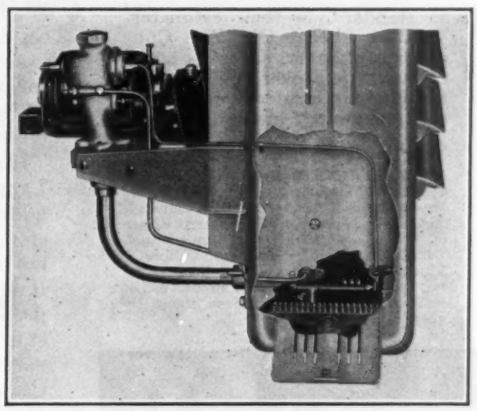
THE NEW and EXCLUSIVE design Forced Air Combustion Burner of Humphrey Gas Unit Heaters contributes four distinct advantages. It means that a perfect mixture for combustion is supplied by forcing a definite, predetermined amount of primary and secondary air into the burner box. Such exactness enables us to make controlled efficiency tests on every Humphrey Gas Unit Heater before it leaves the factory. It allows us to make Humphrey Units more compact—in fact, up to 30% smaller per B.T.U. delivered than units with gravity type burners. And lastly, forced combustion keeps the casing cooler —a feature appreciated by every maintenance man.

FORCED COMBUSTION CHAMBER



ANOTHER exclusive Humphrey feature is the new Thermoelectric Pilot Control. For the first time, here is a simple and positive safety control, based on the themocouple principle, that immediately shuts off the gas supply to both the main burner and pilot in case of pilot outage. It's a safety feature of important sales value to new unit heater customers.

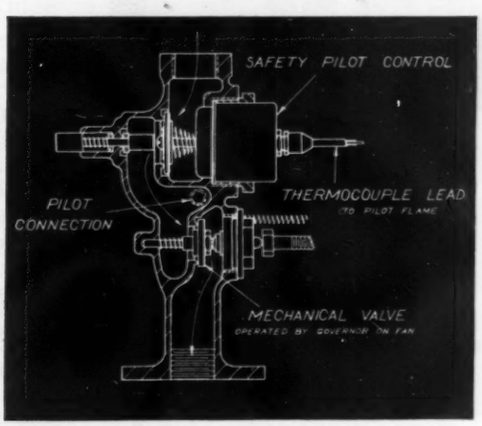
THERMOLECTRIC SAFETY PILOT



THE Humphrey-Baso Combination Gas Valve is another new safety feature that lowers sales resistance. With its positive mechanical control, interruption of the electric current to the fan motor also immediately shuts off the main gas supply. This with the Baso control operating on the Thermocouple principle with the pilot, assures double-safe operation.

NOTE: All Humphrey Gas Unit Heaters with standard equipment carry American Gas Ass'n. Laboratory Approval, and Underwriters Laboratories approval, for general use and for airplane hangars and garages.

HUMPHREY-BASO COMBINATION GAS VALVE



KALAMAZOO, MICHIGAN

Harmless — UNDER GLASS —
BUT *Vicious* UNCONTROLLED

Old Man Condensate is the symbol of chimney destruction. He represents hot corrosive moisture-laden gas always in the air rushing up the chimney, condensing at the dew-point, never failing to cause destruction when it attacks the masonry.

But he is harmless under glass. That is why dealers everywhere now include

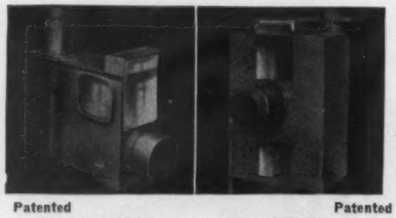
VITROLINER

The Permanent Chimney Liner
Inner-Coated With Vitreous Enamel

as standard, in their estimates. Vitroliner keeps Old Man Condensate prisoner, saves its small cost over and over again, makes friends for dealers who have their customers' interest in mind.

Easily and permanently installed.

BE INFORMED—Send for complete descriptive literature about the efficient Howle Heat Extractor and the industry-famous Condensation Eliminator. Either of these scientific heating units with Vitroliner, the Permanent Chimney Liner, completes the perfect home heating plant. You cannot afford to be without all the facts. Free upon request.



Patented
Condensation Eliminator

Patented
Howle Heat Extractor

VITROLINER
the permanent Chimney Liner
Trade Mark

Address all Canadian inquiries to 184 Horton St., London, Ontario, Canada

CONDENSATION ENGINEERING CORPORATION
TELEPHONE MONROE 1031
335 South Western Avenue, Chicago

Snapped informally at the Michigan convention are: Left, Hal Trump, advertising counsel, Detroit City Gas Co.; Center, A. G. Schroeder, Grand Rapids Gas Light Co., and retiring secretary-treasurer of the Michigan Association, welcomes Newell E. Loomis, Detroit City Gas Co., to the 1938 convention; Right, Herman H. Koelbel, Consumers Power Co., Jackson, Mich., is shown just before delivering his convention paper.

Michigan Gas Association Convention Held July 1-2

AT THE annual convention of the Michigan Gas Association, held at Mackinac Island, July 1-2, Arthur P. Eva, National Utilities Co. of Michigan, Benton Harbor, was elected president; Dean W. Flowers, Muskegon Gas Co.—vice-president; Albert G. Schroeder, Grand Rapids Gas Co. —secretary-treasurer. Mr. Eva was formerly association vice-president while Mr. Schroeder was secretary-treasurer.

Howard Pett, Consumers Power Co., Lansing, retiring association president, addressed the opening convention session, held the morning of July 1. Following Mr. Pett's address, J. W. Batten and Professor A. H. White presented reports on the Gas Fellowship at University of Michigan. "Advertising and the Seven Dwarfs" was the subject chosen by Ben Dean, Ben Dean Advertising Agency, Grand Rapids. H. H. Koelbel, Consumers Power Co., Jackson, spoke on "Co-operating with Appliance Dealers." An open forum closed the morning session, as well as the business for the day as the afternoon was devoted to a men's golf tournament and a bridge tea for the ladies.

The opening feature of the second session, Saturday morning, July 2, was "Wash, Dry, and Iron in One Morning with Gas," a paper prepared for the convention by the Hurley Machine Co., Chicago, Ill. The paper brought out the great load building possibilities of laundry equipment, including gas-heated washer, dryer and ironer. For this reason it was urged that salesmen encourage home laundering by showing the housewife not only the resulting economic saving, but the amount of time and labor that may be saved with the use of modern laundry equipment, which practically pays for itself in one year and affords an approximate saving of $100 to $150 a year for the housewife. In reference to the load building possibilities of the gas equipped laundry, the gas-heated clothes dryer consumption alone is 25,000 B.t.u. per hour.

Following the Hurley Machine Co. presentation, Carl J. Conkey, sales manager, Servel Inc., discussed "Commercial Gas Refrigeration." Mr. Conkey's paper presented a resume of his company's collective experience in the refrigeration field to date, with emphasis on sales methods.

The concluding paper on the morning's program was presented by J. P. Quinlan, American Gas Association, who discussed the "A.G.A. Architects and Builders Promotional Program." Following Mr. Quinlan's talk, a colored moving picture was shown of the Grand Rapids Old Range Round-up, held September-October, 1937.

The Michigan Gas Association held its sessions concurrently with the Michigan Electric Light Association, and on the afternoon of the first day, a round table discussion was held for accounting men of both groups.

■ ■

Marie Meyers to Edit Gas Gazette in Chicago

Marie Meyers has been appointed editor of the Gas Gazette, customer publication of the Peoples Gas Light and Coke Co., Chicago. Miss Meyers' appointment was partly in recognition of the preponderance of feminine readers among the 850,000 circulation of the magazine. She succeeds Ray Fenton.

The Gazette, which was started 19 years ago, was the first customer publication in the gas industry.

Combustion Equipment

For:

All Ranges of Gas Pressure
All Types of Boilers

- **R Series Burners**
  For Pressures of 5 lbs. and Up.
- **Series 200 Multiple Jet**
  For Pressures of 8 oz. to 5 lbs.
- **Radiant Type Multiple Jet**
  For Pressures of 2 oz. to 2 lbs.
- **WECO--N.G.E. F 600 Series**
  for Pressures of 2" to 1 lb.
- **Proper Precision Combustion Controls for All Above Burners**

No one type of burner can operate at maximum efficiency on all gas pressures or fit properly in all types of boilers. WEBSTER burners are designed and constructed to produce maximum combustion efficiency at the lowest operating cost within their range and size. There is a WEBSTER BURNER and precision combustion controls for all pressures and types of boilers.

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F. J. Evans Engineering Co. - Birmingham
Gas & Heating Specialty Co. - Dallas
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New Gas Discoveries Add To California Reserves

AS GAS goes to press word comes of the discovery of a new dry gas field by Richfield Oil Co., in the Potrero Hills near Suisun, Solano county, Calif. A wildcat located in Section 10-4-1, in which area Richfield holds 7768 acres, the flow is estimated at 25,000,000 cu. ft. Transport facilities to San Francisco and Oakland are within one and one-half miles of the spot.

This discovery, in view of similar initial showings in the prolific Rio Vista dry gas field some 15 miles to the east, indicates an important addition to California's gas reserve, and places a new source of supply at San Francisco's back door. A recent completion by the Texas Co., of a gas well, four miles east of the proven field limits at Rio Vista, makes this field the largest dry gas reserve in the state, covering in excess of 10,000 acres.

Developments in the California gas and oil world have come thick and fast since Continental Oil Co. amazed the nation by reaching a depth of 15,004 ft. in its wildcat five miles west of Wasco early in April, 1938. Producing at about 13,200 ft. below the surface, this well opens up unlimited deeper zone possibilities in the south San Joaquin Valley. Repeated tests show a volume of 800,000 cu. ft. of gas from this source, in addition to oil production at a rate of 2800 bbls. a day.

Scarcely a month after Continental Oil Co.'s epochal drilling feat at Wasco, the Petroleum Securities Co., drilling a wildcat 12 miles northwest of the proven limits of Kettleman Hills-North Dome, brought in a prolific producer and proved the existence of a large oil and gas reserve in the Eocene formation of the East Coalinga field. Six companies are starting to drill in the vicinity of the East Coalinga discovery well. Preliminary tests showed a potential in this well of approximately 15,000 bbls. of oil and over 20,000,000 cu. ft. of gas a day.

Back in November, 1937, Union Oil Co., with the completion of its 11,200 ft. well in Rio Bravo field, four miles south of Shafter, inaugurated deep drilling developments in the south San Joaquin Valley. This field has proved very prolific—12 producers at present, capable of delivering at least 25,000 bbls. a day. During the latter part of July, Superior Oil Co., in its Helbling No. 1, a mile southeast of the discovery well, missed the upper Vedder sands, and at approximately 12,200 ft. drilled into what appears to be a deeper zone.

And now comes a dry gas field at Buena Vista Lake which has signs of turning into an oil field as well. Several bodies of oil sands have been reported by Ohio Oil Company's deep test in excess of 10,000 feet. Preliminary testing of this well is now being undertaken.

It is perhaps too early to estimate the volume of gas added to California's reserve by these recent discoveries. But they, together with the extensive developments in the Los Angeles Basin fields at Wilmington, Torrance and Montebello, unquestionably have very appreciably augmented the known reserve, which Ralph E. Davis (*G A S*, May, 1938, p. 29) estimated at 6.9 trillion cu. ft.

During the last 12 months very extensive developments have taken place in the Wilmington field, so that today, under restricted flow due to volume curtailment, 485 wells are producing 90,000 barrels of oil and 55,000,000 cu. ft. of gas a day. This field is very well located from a gas company's point of view, being at the southerly end of Los Angeles county, where large volumes of gas will be used during the heavy demand period.

At Torrance deeper developments have brought in 50 producers in the past eight months. While this activity has proved an extension to the oil reserve, gas production has not been very heavy.

At Montebello deeper zone developments are in progress and these are expected to augment the available gas supply for next winter's season.

■ ■

Texas College Honors Higgins For Educational Work

Texas Arts and Industries College, Kingsville, Texas, has conferred upon Captain A. E. Higgins, vice president, Pittsburgh Equitable Meter Co., an honorary degree and a gold key in recognition of his work in planning the natural gas engineering course now being given at the college. Captain Higgins, then secretary of the Natural Gas Department, American Gas Association, acted as chairman of the planning committee.

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* The BEST way to assure *complete* consumer satisfaction with gas as an economical fuel is to recommend an inspection of the COMPLETE LINE OF

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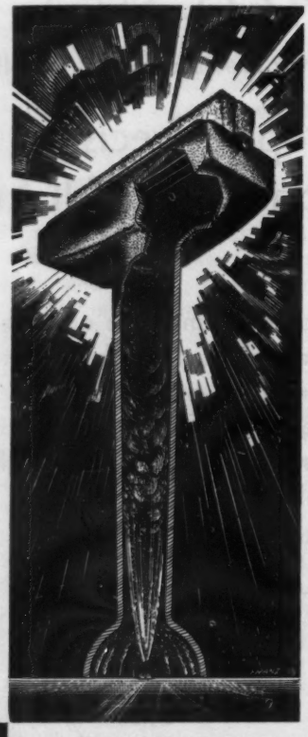


Pacific Multi-Tubular Burners Set a New High in Gas Heating Economy and Efficiency. Orifices Precision Drilled at Factory to Assure Perfect Combustion Permanently.

Preview of coming campaigns by P·G·and E·

PACIFIC GAS AND ELECTRIC COMPANY

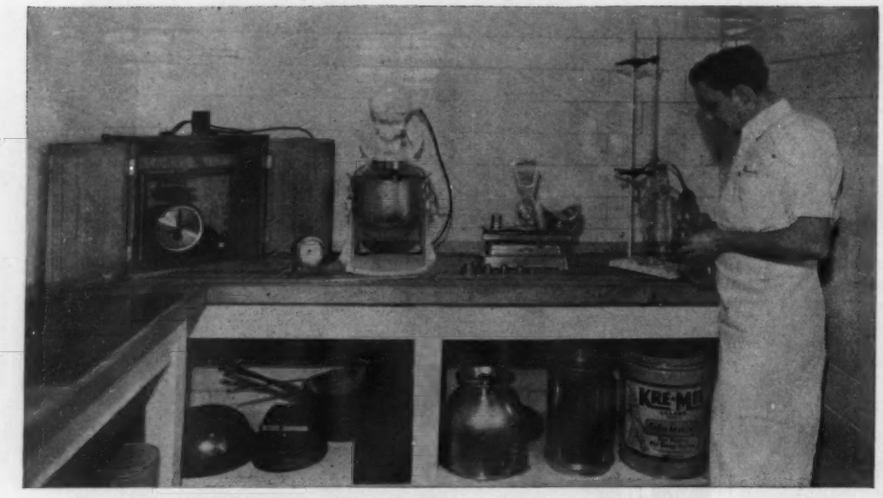
GAS APPLIANCE SOCIETY OF NORTHERN CALIFORNIA

1938 SUMMER HEATING CAMPAIGN

LAST CHANCE to participate in the industry's 1938 summer sale of gas heating equipment. Ten percent discount and October billing ceases to be operative on August 31. Whether or not you have taken advantage of this promotion during the past sixty days, we urge that you do so now. The P. G. and E.'s offer to share your advertising cost is still in effect, P. G. and E.'s promotional advertising will continue each week, and last but not least, the impetus of two months campaigning is behind you. In the long history of this annual event, the last month is always the best. Let's remember this and try to make August, 1938, the biggest month of all.

G 208-888

DEALERS: By watching this page from month to month you can keep informed of sales promotional campaigns to be sponsored by the Pacific Gas and Electric Company and the Gas Appliance Society. Detailed information will be supplied, as usual, through the mail. If such information is not received, call our local office or write Gas Appliance Society, 1355 Market Street, San Francisco, California.



Interior view of the newly installed modern bakery research laboratory of Armour & Co. in the Union Stock Yards, Chicago. Gas-fired testing equipment is used.

Armour & Co. Installs All-Gas Bakery Research Laboratory in Chicago

ARMOUR & CO., meat packers and marketers of specialized products for bakeries, have installed a fully-equipped, modern bakery research laboratory in the Union Stock Yards, Chicago. The new bakery is the research laboratory where products used by Armour bakery customers are tested with gas-fired equipment, consisting of a large bake oven, deep fat fryer, and an auxiliary two-burner hot plate.

Tests are conducted to assist the baker in taking the guesswork out of baking as far as the ingredients are concerned, and to assure a uniformity of texture. All products are tested, for quality, flavor, and appearance, as well as for the costs of production and results. One of the important tests made includes the finding of different melting points for various texture goods, such as lard and butter.

After a certain product has been laboratory tested, 10 samples are made, all identical except for a slight variation of the butter and shortening. Then tests are made by giving samples to a number of people, who report on their preference as to taste. Other tests are made with doughnuts over a gas-fired deep fat fryer.

In this research bakery, gas helps to standardize essential products used in the bakery industry as a whole, since many gas-fired ovens, similar to the one used in Armour's research bakery, are being installed in neighborhood bakeries in the city by equipment manufacturers, in cooperation with the commercial sales department of The Peoples Gas Light and Coke Co., Chicago, Ill.

■ ■

Bureau Announces Revision of Gas Calorimeter Tables

The National Bureau of Standards has announced that Circular C65, originally issued in 1917 and containing gas calorimeter tables, has just been revised to make it conveniently applicable to a wider range of gases and conditions of testing. The new publication, designated as Circular C417, includes a four-place table of correction factors for gas volumes for the temperature range 32 deg. to 110 deg. F., and the pressure range of 24 to 31 in., which may be more useful to others than the operators of calorimeters. The circular is obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C. (10 cents a copy).

■ ■

Oklahoma Natural Contracts For Cement Field Pipe Line

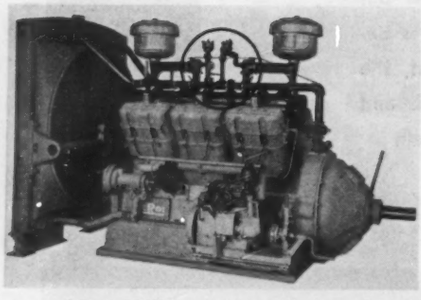
The Oklahoma Natural Gas Co., Tulsa, has awarded a contract to the White Deer Pipe Line Construction Co. for laying the 15 miles of natural gas transmission line westward from the Chickasha field, near Farwell station, to the western sector of the Cement gas field, Caddo county, Okla. Pipe salvaged from an old line near Iola, in southeastern Kansas, is being used by the construction company. Consolidated Gas is already serving this area.

■ ■

Gas Co. Has New Quarters

The Ohio Fuel Gas Co., Columbus, has announced that the company will move to new quarters in Rittman, Ohio, about the middle of August. The new offices are being remodelled for occupancy by the gas company.

LEADING ENGINE BUILDERS CHOOSE ENSIGN



LE ROI Engines for the Oil Fields give the dependable operation required for this type of service. The unit shown operates on Natural Gas or Butane with an ENSIGN Carburetor.

More than a quarter-century has passed since the first ENSIGN Carburetor was built. During all these years, ENSIGN has provided efficient, economical carburetion for internal combustion engines.

Today's Gas, Combination Gas and Gasoline, and Butane Carburetors built by ENSIGN assure a still more dependable service at minimum operating cost.

ENSIGN CARBURETOR CO., LTD.
LOS ANGELES · DALLAS · CHICAGO

1938
P.C.G.A. COOPERATIVE ADVERTISING CALENDAR

P. C. G. A.
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Clifford Johnstone, Managing Dir.

AUGUST

COMMITTEE
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J. S. Spaulding, So. Calif. Gas Co.

P.C.G.A. PUBLICITY

A few of the outstanding feature stories placed by your Cooperative Advertising Committee during first six months of 1938:

SUNSET
Jan.—Gas range in remodeled kitchen.
March—Built-in gas range illustrated. New occidental gas range illustrated.
April—Planned gas kitchen illustrated.

CALIF. ARTS & ARCHITECTURE
May—All-gas kitchen illustration.
June—New gas air conditioning equipment.

CALIF. FEDERATION NEWS
May—Gas basement illustrations.
April—Gas kitchen illustrations.

CALIFORNIA HOMES
Feb.—9-page kitchen planning feature, double-page spread of gas kitchen illustrations.

PACIFIC FACTORY
March—Gas in L. A. General Motors plant.
June—Kelly Pipe Co., L. A., uses gas.

PACIFIC COAST RECORD
Jan.—Colonial Restaurant, Beverly Hills. New L. A. Biltmore Coffee Shop.
Feb.—Eaton's Steak & Chop House, Beverly Hills.
March—Bay City Grill, S. F.
April—Moving Picture Kitchens.
May—Gas Deep Fat Fryers.

WESTERN CONFECTIONER
Feb.—See's Candy Stores.
March—Martha Washington Candy Co.
April—Wonder Food Marshmallow Co.
June—Laura Lee Candy Co.

WESTERN HOME FURNISHER
Jan.—Circulating heater campaign.
Feb.—Gas range sales.—Hale Bros. build sales.
May—Gas appliance statistics.

WESTERN MACHINERY & STEEL WORLD
Jan.—Submerged combustion of gas fuel.
March—Gas heat treating at Abegg & Reinhold, L. A.
April—Pacific Brass Foundry all gas equipped.

WESTERN PLUMBING & HEATING JOURNAL
Feb.—R. G. McCoy, successful merchandiser.
March—Adriano Ramazzotti, S. F.
April—Benedict and Gingrich, Pasadena.

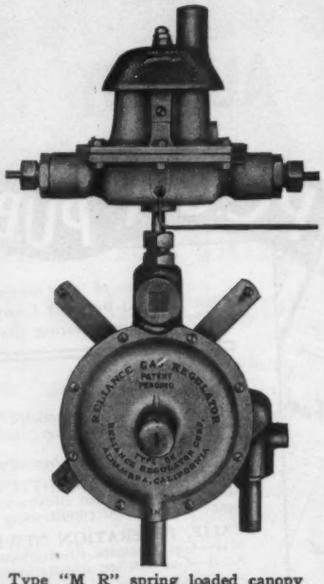
. . . and many more

PROPER, POSITIVE CONTROL OF BOTTLED GAS PRESSURE

The rapid increase in the installation of bottled gas service has been aided by the development of a complete line of Reliance regulators for pressure control. Reliance leads in the manufacture of regulators for Butane, Propane, manufactured, natural and mixed gases. The various types have been thoroughly tested and approved by Underwriters' Laboratories.

Two Steps—from Cylinder to Burner
Reliance Type "M R" Primary Regulators reduce variable cylinder pressures to a uniform outlet pressure of from three to ten pounds. When installed with two cylinders, the "M R" will automatically draw on one or both, depending upon the load and the generating capacity of the cylinders. Type "M R" is usually installed in combination with a Type "B" or "B K" secondary regulator which reduces the three to ten pounds pressure to the required inches of water pressure for proper utilization of the gas.

The Customer is Always Informed
The Reliance Indicator is installed at any convenient place near the point of use. The movable pointer shows the condition of the cylinders. When the pointer is at "Service" on the dial it shows that the reserve cylinder is standing in readiness to operate. When the service cylinder is depleted, the outlet pressure of the primary regulator is automatically lowered, and this causes the indicator pointer to swing to "Reserve," warning the customer to order a new supply. Reliance controls U. S. Patent No. 1960466 on this type equipment exclusively.

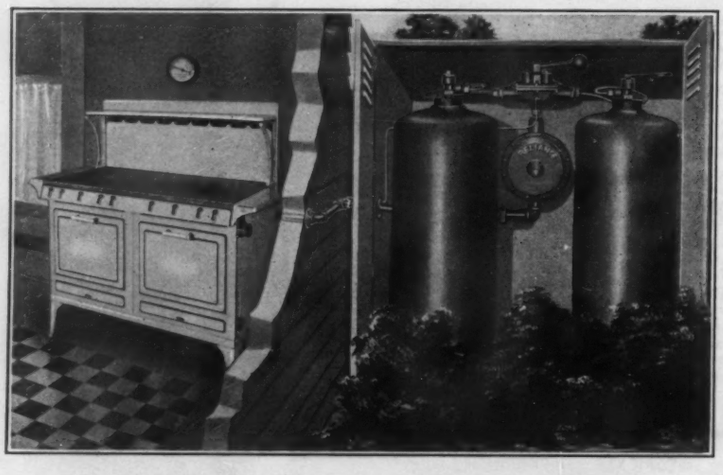


Type "M R" spring loaded canopy top Primary Regulator and Type "B K" Secondary Regulator with bracket and mercury seal.

Reliance Type "B" and "B K" Regulators are separate units that can be used individually as single-step reducing regulators with manual control valves, or as secondary regulators when used with an "M R" primary regulator and gives two-step reduction of pressures, which insures automatic control and offers a service as constant and dependable as that of any manufactured or natural gas company.

Reliance "BK-R" Regulator is the same as the "B K" unit except that an internal mechanical relief valve takes the place of the mercury seal. Brass inlet valves, composition valve seat discs and diaphragms insure long life, sensitive regulation and freedom from disturbances by high or low temperature conditions.

RELIANCE REGULATOR CORPORATION . . 1000 Meridian Avenue . . . Alhambra, California



Typical domestic installation of type "M R" Regulator and indicating dial for automatic control of bottled gas fuels.

Indicator dial may be installed in any convenient location near the point of use.

Indicating device through cross section of wall.

Send for Bulletin No. 40

RELIANCE REGULATORS

A Mid-West Oil Co. Uses Butane To Air Condition Field Offices

By J. C. ALBRIGHT
Staff Correspondent

SKELLY OIL CO., Tulsa, Okla., utilizes its Lyman, Osage County, Oklahoma, gasoline plant as a central fractionation unit, handling all gasoline manufactured in four plants in that county, and manufactures from the raw gasoline, many different products, some of which are shipped and sold under U. S. P. regulations for medicinal uses. In addition to these products, large quantities of propane and butane are fractionated, commercially pure each day, and shipped in cylinders and tank cars. Tank wagon shipment is also made to various parts of the oil producing country for fuel in internal combustion engines in the place of natural gas and other fuels for drilling.

Besides these activities, the company is continually experimenting with various natural gasoline fractions. to determine what use they may be put to, and the cost of utilization, and the results obtained. As the field office requires considerable paper work to record production, experiments, shipments and the like, a number of accountants are busy in the office the year around. During the summer months in this area, temperatures are usually quite high, and fans are required ordinarily for circulation of the air in cooling the office force.

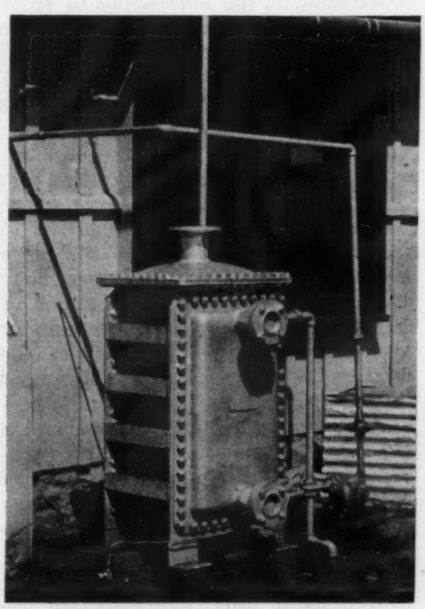
In the late summer of 1937, operators of this plant decided upon an experiment, which would offer relief from the high temperatures, and afford some kind of information showing costs of air cooling, by using one of the major products manufactured in the Lyman gasoline plant, which is commercial butane, direct from the gas fractionator accumulator drum.

The building used for the field office is of the type usually encountered in oil fields, built of cheap lumber and uninsulated, 12 ft. wide, 24 ft. in length with an 8-ft. ceiling. The roof is rather flat, which reduces the air space and ventilation above the ceiling with the result that the inside temperature sometimes becomes more uncomfortable than in the open where the sun is shining. Several windows and doors are in the walls at different places, but not weather-stripped..

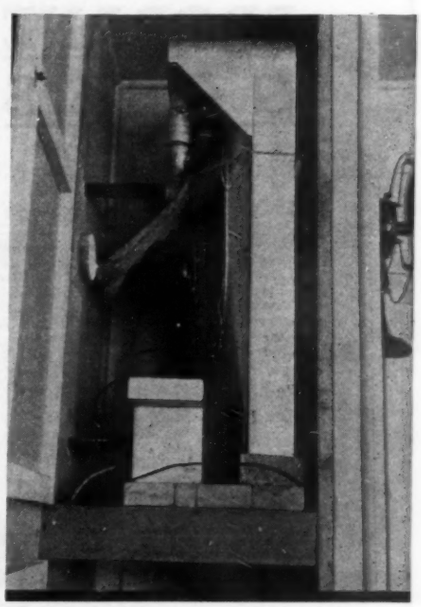
The material utilized in cooling this building was picked up from company stores, and consists largely of equipment that had served its useful life around the plant. Piping used is in good condition, but normally called second-hand, with valves, gates and expander needle valves taken from various places around the plant where they were of no immediate need. The principal parts of this air cooling plant included a shell and tube, Southwestern gas cooler, with several passes of tubes designed when built, and a truck radiator from a vehicle that had become quite well worn in field service.

The exchanger, or gas cooler, is mounted outside the office on a wood foundation, with the directing fins and fixtures on the side plates cut away to make a two-pass unit. The connections on the side plate serving the tubes are blind-flanged, with a one-in. nipple welded between the flanged end and the exchanger cover in the nipple attached to the unit at the lower side. The upper connection is treated likewise, but having a two-inch nipple welded for the outlet of the butane vapors. The one-inch pipe is connected to the fractionator accumulator drum to transfer liquid butane to the cooler section, with an expander valve installed at a convenient place near the unit for refrigeration control. The two-inch pipe is connected to the gasoline plant vacuum intake header that carries un-processed natural gas from the field to the absorbers and engines, returning the butane vapors from the cooler as they pass through the unit.

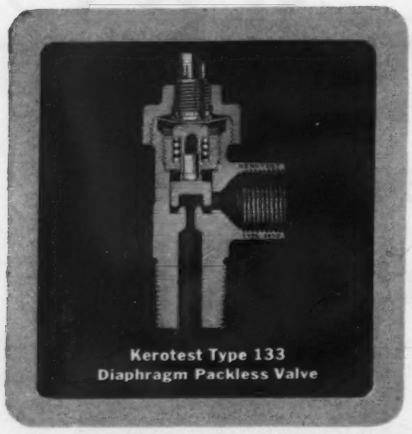
This square-type gas cooler has fittings on both the upper and lower ends to carry large quantities of gas,



View of heat exchanger using butane for cooling circulated alcohol.



The air, cooled by circulating alcohol, is blown through this truck radiator.


Kerotest Type 133
Diaphragm Packless Valve

KEROTESTS
the ideal valves for modern propane gas service

Incorporating the famous Kerotest Diaphragm Packless design, these strong, pressure-tested valves can be inspected or repaired while under full pressure without interrupting service from the line—thus extending their service indefinitely. They are listed as standard by the Underwriter's Laboratories and are available with or without handwheels. Try them on your next job.

KEROTEST MANUFACTURING CO.
PITTSBURGH, PA.

oil, or water, as the case may have been in regular plant service, but since these were not required in the present installation, they were consequently flanged off or reduced in size. The unit is located on the east side of the building, uninsulated and affords a chance for a considerable loss of refrigeration by radiation, as well as absorption of heat from the morning sunshine.

Use of Old Truck Radiator

The second unit of this cooler, being the truck radiator, is located in a cabinet within the office proper, having its filler and over-flow openings soldered gas and liquid tight. Two pipes are connected to this radiator, one to the lower, or radiator outlet hose connection, and the other to the top outlet where water normally flowed from the motor head to the radiator for cooling. These pipes are connected to the reducing flanges in the bottom and top ends of the gas cooler, but having a small liquid pump installed in the lower line for circulation. This system is filled with ordinary commercial alcohol, such as is generally used in the oil field to prevent freezing of equipment, and forms the circulating fluid in a closed circuit.

The cabinet which contains the truck radiator is built in a workman like manner to conform to the general scheme of the office, and has two grills, one at the top, and the other at the bottom, both facing the main part of the room. The interior of the cabinet is furnished with a shelf upon which is mounted a 16-in. electric fan, formerly used in the office for air circulation. The shelf extends from side to side and almost closes the cabinet, but furnishes sufficient space for free passage of all air that the fan can carry.

In operation, the butane, gaged by the temperature required in the room, is expanded into the gas cooler exchanger, which in turn refrigerates, or cools the alcohol around the tubes and in the radiator and circulating system. The small water pump, driven by a one-fourth hp. motor is constantly circulating the liquid system, and with the fan circulating the air from the lower grill back into the room through the radiator and the top grill, the temperature of the room is lowered from 20° to 25° F. below outside temperature.

A small pipe, such as stove piping, is inserted in the outer wall of the building, directly behind the electric fan, and equipped with a damper, or butterfly valve controlled by hand to allow for make-up air for circulation. A window in the side opposite from the cabinet is raised slightly to allow necessary escape of used air, and to accommodate the air entering the cabinet through the butterfly valve behind the circulating fan.

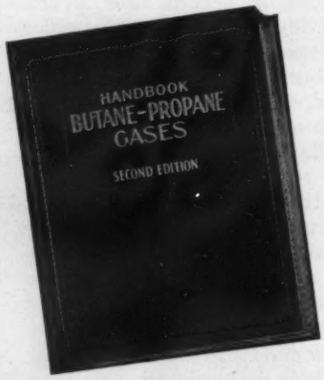
Amount of Butane Required

The amount of butane required to reduce the temperature of the office is approximately 30 gals. per hour during the extremely hot portions of each day, with the minimum running about 20 gals. per hour when the weather is not so hot. Alcohol is used through the circulating system to prevent freezing, and butane is used in the cooler outside the building to prevent any contamination of the air within the building due to leaky gaskets and connection that might develop.

If the installation had been engineered as a unit, expressly for refrigeration the size of several of the parts could be easily changed, as, for

FOR SALE: Small gas plant (butane) 500 meters, Pacific Southwest. Growing community. **BOX A.B.C. Care GAS, 810 So. Spring, Los Angeles.**

HANDBOOK
BUTANE PROPANE GASES
SECOND EDITION
375 pages
$5.00 per copy, plus postage



CONTENTS: Use in internal combustion engines: Design & Installation of Storage: Supply from Petroleum Refineries: Engineering Data on the Lower Olefins: Domestic Appliance Testing and Utilization: Economical Comparisons with Coal, Oil, Electricity, Producer Gas, Manufactured Gas: Town Plants: Manufacture from Natural Gas: Special Uses: Volume Correction Factors: Supplements & Revisions: Transportation: Use with other Gases: Analysis & Testing: Properties of Mixtures: Bottled Gas Distribution: Bibliography: Central Plant Directory: Catalogue Section.

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instance, the cooling unit which has a capacity several times more than required for the purpose now used. The cost of the entire plant is negligible, due to the fact that practically all material entering into the construction was from used plant material. Because of the successful operation of this unit, the company plans to install a similar set-up in all field offices where butane is available.

■ ■

Pacific Public Service Co. Has Acreage at Rio Vista

The Pacific Public Service Co., San Francisco, Calif., through its subsidiary, Natural Gas Corp., Santa Cruz, Calif., has taken 1000 acres in the Rio Vista gas field in California. This marks the first time that the Pacific Co. has held any gas acreage of its own.

The Rio Vista field is half-way between Sacramento and San Francisco and is one of the largest dry gas fields in the world, covering more than 15,000 acres. There are at present 21 wells in the field with capacities up to 50,000,000 cu. ft. daily.

■ ■

Butane Dealer Opens Offices In St. Francis, Kansas

Desbrow, Abbott and Desbrow, Salina, Kan., dealers and distributors of butane gas and equipment, have recently opened offices in St. Francis, Kan. The company is planning to make underground installations in St. Francis and the surrounding area. F. H. Desbrow will head the St. Francis office. The firm also maintains offices in Alma and Sabetha, Kan.

■ ■

Airlene Gas Co. Takes Over Webb & Webb, Martin, Tenn.

The Airlene Gas Co., Fulton, Ky., butane gas distributor in Western Kentucky and Tennessee, has taken over the direction of the former office of Webb and Webb in Martin, Tenn. The Martin office will be managed by Mrs. George M. Brooks, who will also have charge of sales, both locally and in the surrounding territory.

■ ■

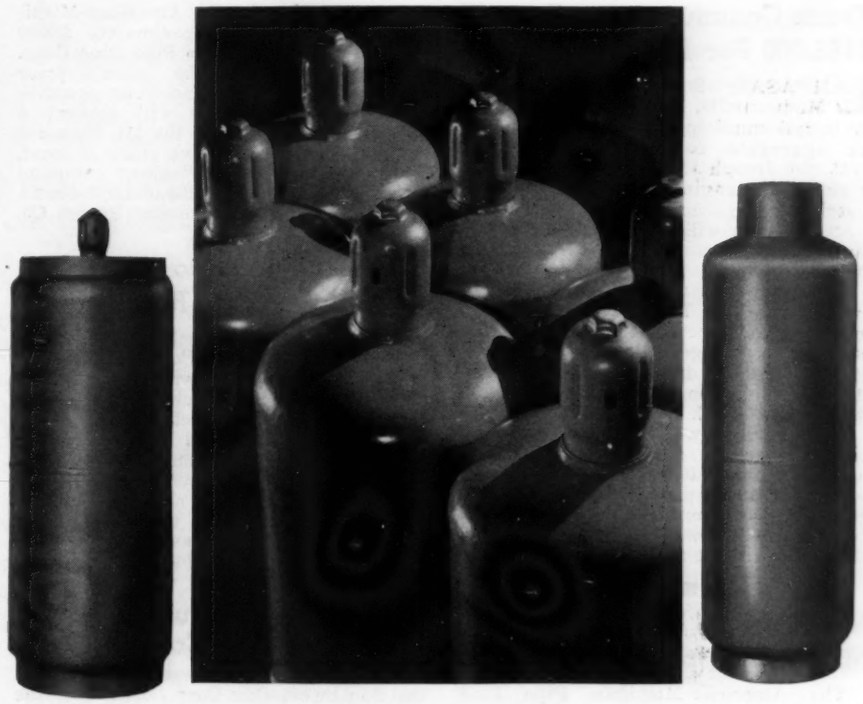
Hoaglund to Handle Bottled Gas for Worthington Co.

Hildar N. Hoaglund, for 10 years manager of the Willmar Gas Co., Minn., has recently accepted a position with the Worthington Gas Co., Minn., where he will have charge of the organization and promotion of bottled gas sales in six counties, three in southern Minnesota and three in northern Iowa.

■ ■

Wilmington, Calif., to Have Butane-Air Standby Plant

Southern Counties Gas Co., Los Angeles, is now installing a $92,000 butane-air standby plant in Wilmington, Calif., according to O. R. C. Grow, district manager. The tanks and built-in pressure equipment have been installed, and it is expected that the job will be completed by the latter part of September.



2 out of 3 Prefer the Dependability and Uniformity of HACKNEY CYLINDERS

Twice as many Hackney cylinders, as any other make, are in use, for the storage and transportation of Butane and Propane. The value of Hackney dependability has been recognized by the gas industry for many years.

Uniform strength, weight and capacity result from the careful selection of raw materials, accurate control of heat-treating processes and constant supervision and inspection of every manufacturing process from start to finish.

Write today for complete information about Hackney cylinders for Propane, Butane and Butane-Propane mixtures. There is no obligation.

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MILWAUKEE GAS SPECIALTY CO.
MILWAUKEE ★ WISCONSIN

Texas Communities to Spend $185,000 For Butane Plants

LAMPASAS, Bogata, Caldwell, and Madisonville, Texas, are planning to install municipal butane systems at an aggregate cost of approximately $185,000. Joseph J. Rady, of Fort Worth, is consulting engineer for the Lampases distribution system construction. Butane storage tanks will also be erected. The approximate cost of this project will be $65,000.

Mr. Rady will also act as consulting engineer for the Bogata system, which, including construction of steel tanks for butane gas storage, will cost about $40,000. The $40,000 distribution system and storage tank construction in Caldwell will be done by E. L. Dalton of Dallas.

Madisonville, which recently held a special election authorizing the city council to issue $40,000 worth of revenue bonds for a municipally-owned butane plant, is also planning pipe lines for gas distribution as well as storage tanks. Mr. Rady will act as consulting engineer.

■ ■

New Line to Mt. Pleasant, Mich., Is Approved

The American-Michigan Pipe Line Co., Muskegon, was granted authority by the state public utilities commission, June 16, to lay pipe lines and conduct and operate natural gas transmissions lines from fields in Isabella and Clare counties to the lines of the Gas Corporation of Michigan, Mt. Pleasant.

The commission also approved an agreement whereby the American-Michigan Co. will pay approximately $6000 to the Central Michigan Pipe Line Corp. in consideration of the latter's prior rights in the Isabella and Clare counties fields. The new lines will prevent a natural gas shortage in the Mt. Pleasant territory for the next five years at least. Last winter the Mt. Pleasant company was forced to borrow 100,000,000 cu. ft. of gas from the Consumers Power Co.

■ ■

Chandler, Ariz., to Have Second Gas Rate Reduction

A lowered gas rate schedule has been filed with the Arizona Corporation Commissioner for the town of Chandler, according to a recent announcement by Thomas J. Frost, district manager, Central Arizona Light and Power Co. The new schedule offers the lowest house heating rate in the state, and is the second reduction since natural gas was installed in Chandler two years ago. Consumers will be saved more than $119,000 by the reduction.

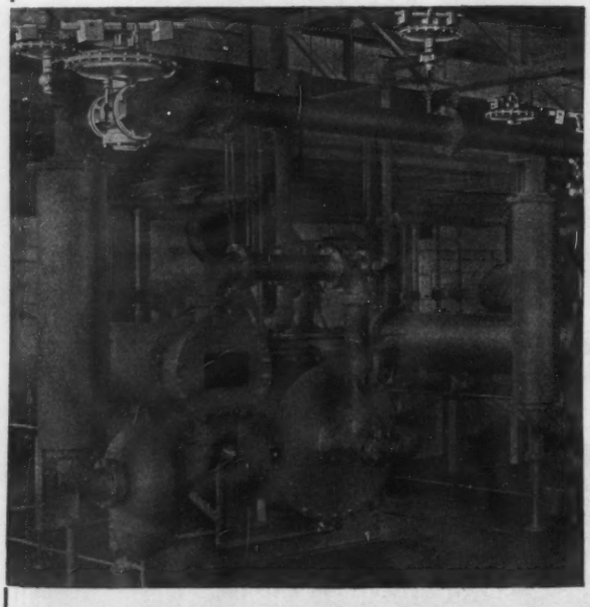
■ ■

J. H. Gray, Sr., Purchases Southwest Gas Corp., Calif.

J. H. Gray, Sr., has recently purchased the Southwest Gas Corp., operating the Barstow and Victorville, Calif., butane central plants. J. K. Koeneman will continue in his present capacity as manager of company properties.

The Southwest Corp. is serving 550 meters at the present time, and plans for extensions of company lines are now underway.

Trustworthy REGULATION



FULTON Weighted Illuminating Regulators and Relief Valves are seen overhead on the Atmos-Gas Producers of the C. M. Kemp Manufacturing Company, Baltimore. These are designed for reduction and precise control of extremely low pressures. Chaplin-Fulton regulating devices are adapted for every need of pressure control, including yours. Made since 1884. Write for Catalog.

THE CHAPLIN-FULTON MFG. COMPANY

28-40 Penn Avenue CF Pittsburgh, Pa.

Committees Named To Plan Two L.P.G.A. Meetings

IN CONNECTION with midwest and southern section meetings of the Liquefied Petroleum Gas Association to be held respectively at the Bismarck Hotel, Chicago, September 22-23, and the Hotel Marion, Little Rock, Ark., September 26-27, F. R. Fetherston of the Liquefied Petroleum Gas Association has announced that the following committees on arrangements and programs have been appointed.

For the midwest section of which K. R. D. Wolfe, Fisher Governor Co., is chairman, the committee will be B. D. Geroy, Illinois Bottled Gas Co., chairman; Ben G. Simon, Shell Petroleum Corp.; H. W. Sweet, Kwik-Gas Corp.

For the southern section, H. C. Pittman, Automatic Gas Co., chairman, the committee will be J. Woodward Martin, Lone Star Gas Co., chairman; B. T. Harris, Butane Gas System; N. A. James, N. A. James, Inc.; H. C. Pittman, Automatic Gas Co.; M. J. LaDue, Gas Equipment Co.

Both meetings will be devoted to studying plans to promote greater sales of liquefied petroleum gas in the areas represented by the section.

■ ■

Central States Corp. Plans Enlargement of Gas Lines

The Central States Power and Light Corp., Tulsa, Okla., has started drilling operations on one of the new gas wells planned by the company to increase its gas supply, according to an announcement by C. V. Cluen, Stigler, Okla., manager. The new wells are to be drilled near Kinta.

Mr. Cluen has announced that the company is also planning to enlarge its gas transmission lines as well as lay new distribution lines in Stigler.

■ ■

Louisiana Parish Grants Natural Gas Franchise

Jefferson Davis Parish, La., has recently passed an ordinance granting a natural gas franchise to the United Gas Corp. for the construction and maintenance of pipe lines and mains for serving gas in the parish. The franchise will extend for a term of 50 years.

■ ■

Pittsburgh Equitable Takes New Los Angeles Office

The Merco Nordstrom Valve Co. and the Pittsburgh Equitable Meter Co. have moved into larger quarters at 2808 East 12th Street, Los Angeles. A new building provides more office space and much larger warehouse facilities. Larger stocks will be carried. Location is central for oil field and gas trade shipments.

■ ■

Republic Completes Move

The Republic Natural Gas Co. has now moved into the new company headquarters in Dallas. The company formerly operated from Corpus Christi, Texas. Republic officers were installed in their new offices July 7.

Frank R. Coates, Cities Service Co. Director, Dies

FRANK R. COATES, a director of Cities Service Co., New York, and associate of Henry L. Doherty for more than 25 years, died at his home in Avon, N.J., on June 26. Mr. Coates was directing head of the natural gas and oil division of Cities Service.

Mr. Coates' association with Mr. Doherty began in 1913 when the Toledo Railways and Light Co., of which the former was president, was acquired by Doherty and Co. In 1922 Mr. Coates went to New York where his activities expanded. Among the positions which he held at the time of his death were president and director of Tampico-Texas Petroleum Corp., Penn-York Natural Gas Co., vice-president and a director of the Cities Service Power and Light Co., vice-president of the Empire Gas and Fuel Co., Toledo Light and Power Co., as well as director of the American Society of Civil Engineers.

■ ■

Board Upholds Dilution of Gas By Ohio Fuel Gas Co.

A SPECIAL board of engineers, named by the Ohio public utilities commission, upheld in a report the Ohio Fuel Gas Co.'s practice of mixing inert gases with natural gas for retail sale in Columbus, Ohio.

The board of three, including L. F. Dabe, chief engineer of the commission's gas division, Dr. D. J. Demorest, professor of engineering, Ohio State University and Owen W. Simonton, commission engineer, was assigned to investigate the company's practice in the Columbus gas rate case now pending. The board maintained that it was necessary to dilute the gas in order to convert it into a usable state.

■ ■

General Controls Co. Opens Branch Office In Houston

The General Controls Co. announces the opening of a new branch office in Houston, Texas, where a complete stock of General automatic temperature pressure and flow controls, sales and service will be maintained, according to Alvin W. Ray, vice-president in charge of sales for the company.

The new office to serve Texas and environs is under the management of W. R. Nason, graduate engineer. Other General Controls factory branch offices are maintained in New York, Chicago, Cleveland, Los Angeles and San Francisco .

■ ■

New Book Advocates Business Press for Advertising

Harper Bros., New York, has just completed the publication of *Advertising and Selling Through Business Publications* by Mabel Potter Hanford. The new volume includes a comprehensive bibliography of sources of market statistics, with findings of a survey of reader habits conducted by Crossley, Inc., for The McGraw Hill Co. in 1937. The book is designed to acquaint a wider circle of advertisers with business papers. The regular edition is priced at $2.50.

Doyle Joins Representative Staff of Ward Heater Co.

RAY G. Logue, vice-president and general manager, Ward Heater Co., Los Angeles, Calif., has recently announced that J. N. Doyle has been added to the representative staff of the Ward Co.

J. N. DOYLE

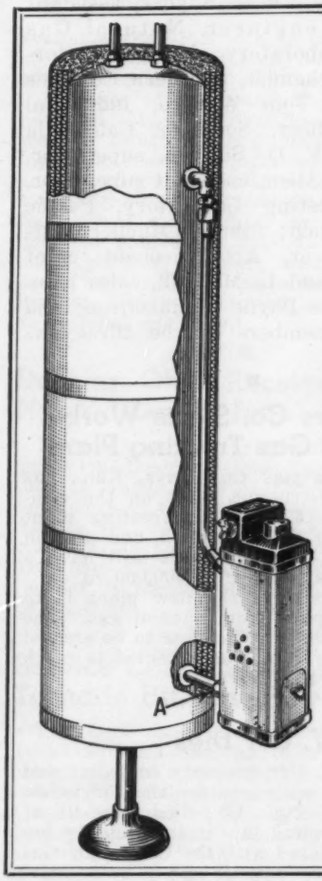
Mr. Doyle, with headquarters in Denver, Colo., will have charge of the sale of Ward Floor Furnaces in the Rocky Mountain area. He has a practical background of more than 13 years in heating and ventilating sales engineering work.

The Ward Heater Co. now has direct factory representatives with offices in Chicago, Dallas, Kansas City, Pittsburgh, San Francisco, New York and Denver.

■ ■

Beachwood, Ohio, Approves First Gas Franchise

The village council of Beachwood, Ohio, approved, on June 28, the granting of a three-year natural gas franchise to the East Ohio Gas Co., Cleveland. The company will extend its present lines in University Heights to Beachwood. Service was to be started 30 days after approval by council.



EVERY LOW-INCOME HOME

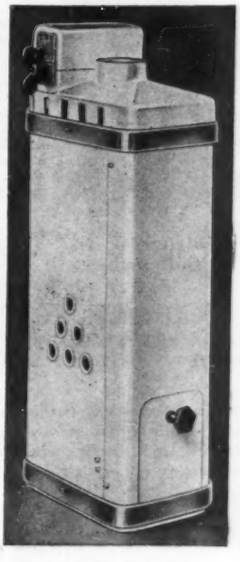
Can Afford Full Automatic Hot Water Service With

HOTZONE
Welsbach

Conversion Gas Water Heater

Boost your domestic load this summer—stage a real campaign to install this, the latest and most efficient appliance for giving full automatic hot water service at very low cost.

This modern Welsbach Conversion Unit is the ideal appliance to introduce automatic hot water service to thousands of prospects who think they can't afford it. Once they start using this unit—enjoying its advantages almost every hour of the day—they will be permanently sold on gas for hot water service.



IN TWO SIZES

Write at once for details on complete line of HOTZONE Gas Water Heaters

WELSBACH COMPANY

GLOUCESTER CITY, N.J. — BRANCHES — CHICAGO, SAN FRANCISCO

NEW STREAMLINE MODEL

The heater that SMILES while it Warms

FRASER

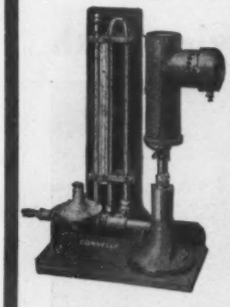
Radiant Front Console

Notice the modern streamline design and the two-tone walnut finish. Made in five sizes from 20,000 to 60,000 B.T.U.'s. Also available with built-in fan.

MANUFACTURED BY
FRASER FURNACE CO.
STOCKTON, CALIFORNIA

DISTRIBUTED BY
H. R. BASFORD COMPANY
425 Second St., San Francisco
911 S. Grand Ave., Los Angeles

CONNELLY CALOROPTIC
Direct Reading BTU Indicator



For connecting to control panel to close down plant if BTU's swing beyond high or low limits . . . or for operating motor valve to control mixture or to determine desired BTU values. Simple, positive, accurate and inexpensive . . . may be used for remote control with signal lights and alarm units. Suitable for any gas.

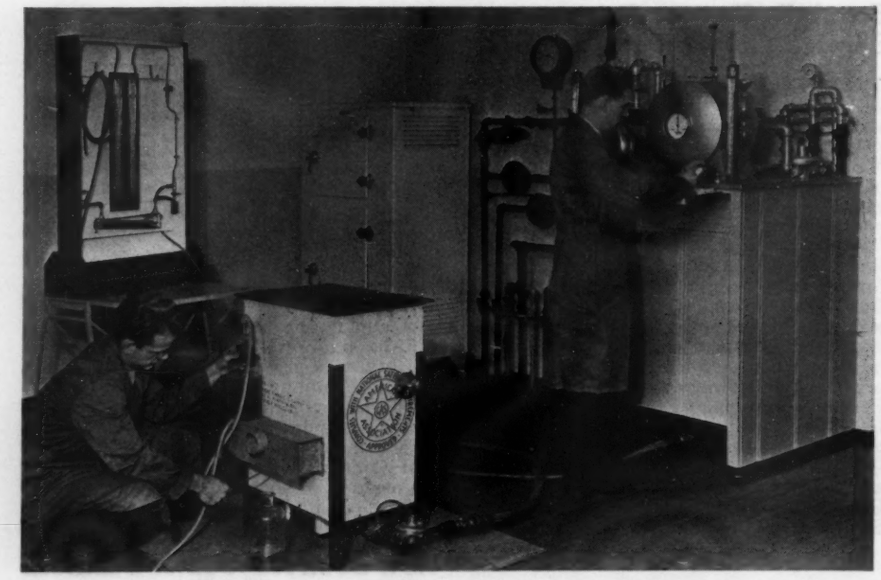
Write for Bulletins

CONNELLY
BACK PRESSURE
VALVE—Sensitive

For preventing reverse flow in gas lines. Provides safety for industrial burners using boosted air pressure. Light weight check disc insures operation on low differential.

CONNELLY
IRON SPONGE & GOVERNOR CO.
CHICAGO, ILL. ELIZABETH, N. J.

Pacific Coast Representative:
Harry V. Payne, 3834 Third Ave., Los Angeles



Interior view of the new testing laboratory of Payne Furnace & Supply Co. in Beverly Hills, Calif.

Payne Furnace Co. Opens New Testing Laboratory in Beverly Hills, Calif.

THE Payne Furnace & Supply Co., Inc., Beverly Hills, Calif., has installed a new and completely equipped test laboratory housed in a two-story class A building which also contains an engineering library and production drafting department.

Opening off the laboratory is a test room, sound and heat insulated, which is used for large scale air delivery tests on winter air-conditioning equipment. In an adjoining laboratory, class lecture-demonstrations are presented to the sales, service and installation personnel and frequently to interested groups of dealers and architects.

A complete model workshop allows Payne engineers to alter and rebuild test models in the laboratory entirely apart from the factory production department.

Equipment on exhibit includes gas test meters and combustion analysis apparatus, an electrical test panel for determining the characteristics of controls, transformers, and motors, a gas accelerated life testing of safety pilots, a floor furnace fire-hazard test board and air flow and temperature measuring equipment for air delivery and heat balance tests on winter air-conditioning equipment.

The completion of the new Payne laboratory was marked by an open house and dinner given to Southern California gas representatives. Present at the dinner were Guy Corfield, research engineer, Southern California Gas Co.; R. I. Snyder, assistant research engineer, Natural Gas Bureau Laboratory; N. K. Senatoroff, chief chemist, Southern Counties Gas Co.; Tom Wallace, industrial sales engineer, Southern California Gas Co.; F. O. Suffron, supervisor, and F. A. Allen, assistant supervisor, A.G.A. Testing Laboratory, Pacific Coast Branch; John C. Mueller, testing engineer, Art Theobald, chief engineer, and L. M. Hull, sales manager of the Payne organization; and 25 staff members of the three gas companies.

■ ■

Producers Co. Starts Work On New Gas Treating Plant

Producers Gas Co., Hays, Kan., has started construction work on the company's new $75,000 gas treating plant in the Otis field of Rush and Barton counties, Kan. The plant will have a daily gas capacity of 70,000,000 cu. ft.

The purpose of the new plant is to remove sulphur from natural gas. The plant, the third of its type to be erected by Producers Co., was expected to reach completion by July 15.

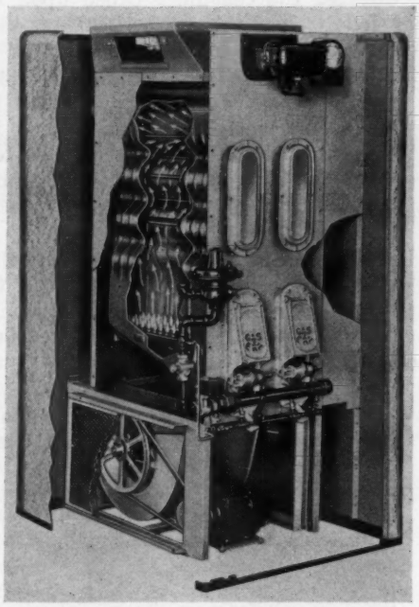
■ ■

Harold V. Orr Dies

Harold V. Orr, property custodian and director of insurance for the Cincinnati Gas and Electric Co., died June 21 at Christ Hospital in Cincinnati. He became associated with the Cincinnati Gas and Electric Co. in 1914.

Low-priced Air Conditioner Offered by L. J. Mueller Co.

The L. J. Mueller Furnace Co., Milwaukee, Wis., announces Climatrol Junior, a new lower-priced gas-fired winter air-conditioning furnace, designed and built for the smaller home, and offering homeowners the combined comforts of gas heat, circulation, air cleaning, and humidity control. The unit is housed in a green texture-lacquered cabinet. There are two sizes



available, the SP-2 with an input rating of 90,000 B.t.u.'s per hour, and the SP-3 with an input rating of 135,000.

Features of this new unit are: The patented Mueller Heat-Speeder Steel section; return air surrounds the heating unit, lessening radiation heat loss, and assuring a cool outer cabinet; return connections may be made on any of the four sides; ample filter area; rubber-mounted multi-blade type fan. A patented plenum chamber, which permits use of any or all four sides for either return or supply connection, is furnished as optional equipment.

■ ■

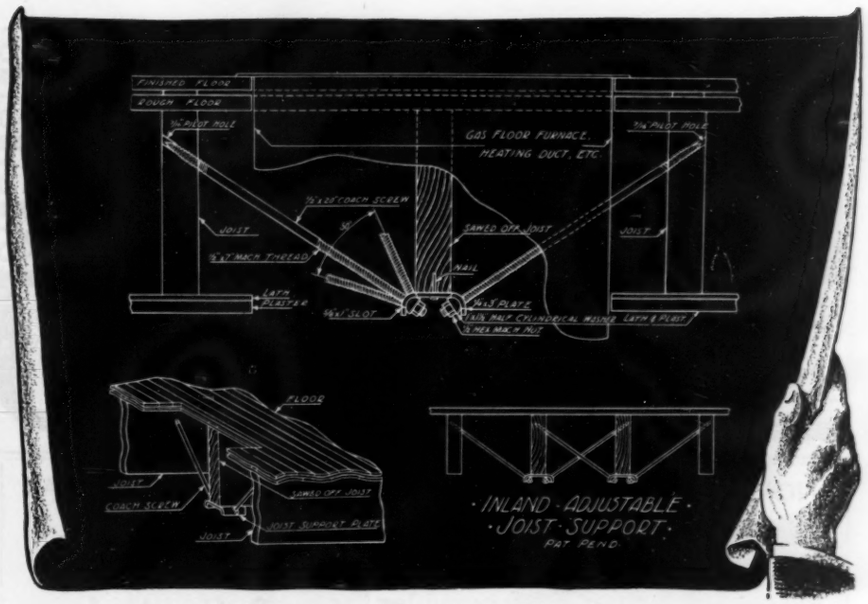
Deshler, Ohio, Receives Natural Gas in June

Natural gas was turned into the city mains in Deshler, Ohio, for the first time in June. One of the city's first consumers of natural gas was the Ohio Alfalfa Co., which uses 250,000 ft. of gas daily in the company's dehydrator. The new gas was made available in Deshler by the Napoleon Public Service Corp., Ohio.

■ ■

Service Continues as Flood, Tornado Hit Lone Star Lines

The Lone Star Gas system, Dallas, Texas suffered damage to a pipe line bridge and to customer lines, when a sudden flood following a cloud burst and a tornado struck at two different points during June. Due to quick work by employees and an interconnected pipe line system, service was uninterrupted.



DON'T LET THAT FLOOR JOB BOTHER YOU

Inland has the Solution!

Joist headers to be fitted in awkward places, extra labor costs, sagging joists, dissatisfied customers . . . the Inland Adjustable Joist Support solves these installation problems.

Heating engineers and mechanics have pronounced this the only practical device for supporting joists that must be cut to install gas floor furnaces, floor registers, duct work, piping. The Inland Adjustable Joist Support saves time, money, and assures a more satisfactory job.

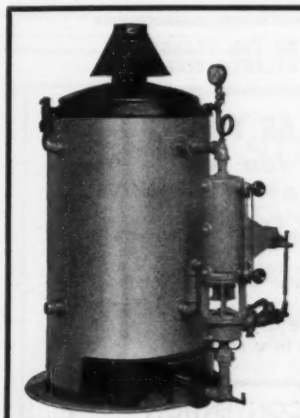
See what it does: It eliminates headers—always hard to fit in place. Takes only a few minutes to install and requires no special tools or skill. Placed before joist is cut, sag is impossible. Minimum damage to floor structure. Gives a strong, rigid, permanent support that eliminates any chance of sagging joists or creaky floors.

Cut your installation costs, and insure customer satisfaction by specifying Inland Adjustable Joist Support on every job.

Write at once for descriptive circular, or send for sample set.

INLAND
GAS SPECIALTIES

INLAND MANUFACTURING COMPANY
1120 NORTH CICERO AVENUE CHICAGO, ILLINOIS



INDUSTRIAL GAS BOILERS

Plain tubular	¾ to 10 H.P.
Water Leg tubular	5 to 45 H.P.
HE Flueless	1 to 18 H.P.

ASME Code for 100 lbs. S.W.P., also for higher pressures.
Non-electric Low Water Cut-offs for all types of boilers.

P. M. Lattner Mfg. Company
CEDAR RAPIDS IOWA

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FOR EVERY HEATING NEED
FURNACES
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Air Conditioning • Heating Equipment
WRITE FOR ATTRACTIVE DEALER PROPOSITION
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NOW MILLIONS CAN AFFORD AUTOMATIC HEAT
with the
GENERAL CONTROLS
Gas Actuated
SPACE HEATER CONTROL
• True automatic control • No electricity needed • Generates own current • Low first cost • Installed by gas fitter • Differential ½°F. • No bleed gas • Safety pilot • No hum, no click.
A product of GENERAL CONTROLS

STANDARD PRODUCTS
THAT ARE
Kitson Standard
Made from finest Quality Metals, carefully machined to exacting specifications. Each thoroughly tested, before leaving the factory, for ease of operation and freedom from leakage.
G-501—Flathead Iron Body Brass Plug Gas Stop
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HOTEL CHELSEA ON THE BOARDWALK ATLANTIC CITY, N. J.
AS FRIENDLY AS YOUR HOME
OFFERS EVERYTHING YOU HAVE THE RIGHT TO EXPECT IN A RESORT HOTEL
Each member of the family will find diversion . . . Concerts and dinner music by artists of the Phila. Orchestra • Luncheon served guests in bathing attire on our open air dining terrace • Restricted beach • Bathing from rooms • Dancing • Bar • Sundecks • Social Director • Kindergartner • Noted cuisine.
Rates for Room, Bath, Meals, Based as Low as (on a weekly stay, per person, 2 in a room) $6.30 DAILY
WRITE FOR RATES FOR A.G.A. CONVENTION

A Pacific Coast Co. Audits Its Public Relations

(Continued from Page 23)

complaint itself, but of the manner in which the complaint was finally disposed of.

After an analysis, the complaints and comments of the consumers are card-indexed in a manner to indicate whether the consumer called upon is friendly, passive or critical of the company.

The sections in the more densely populated cities where the audit is made, are traced on a map. This is filed and obviates any tendency toward doubling back over the same district, and also indicates the geographical coverage.

The auditors are instructed to divide their calls in a manner, so as to give a fair cross-section of the company's customers as distinguished between domestic, commercial, industrial, and agricultural.

On account of the auditors emanating from the General Office, customers in the field feel more free to express themselves, than would be the case were the auditors from the local company's organization. For this reason, it is possible for the auditors to secure information which probably would be difficult for our local organization to obtain. Some of the principal benefits resulting from this audit might be enumerated as follows:

1. It affords an opportunity for a customer who might be harboring a contention against the company to express his feeling regarding the company's service and the general attitude of our local organization toward him.

2. This gives the company the opportunity to correct erroneous impressions largely due to misinformation, which impressions are influencing the customer adversely.

3. During the interview, the auditors are able to learn from the customer the condition of his appliances which, in many instances, is the basis of dissatisfaction on the part of the customer, who has not been informed that the company is in a position to render appliance maintenance service.

4. As a result of suggestions made by the customer, in many instances consolidation of certain office functions has been effected, and general rearrangement of equipment made, which results in less time consumed in dispatch of business direct with the customer.

5. The audit has a general beneficial effect on our employees, discip-

lining them to closer attention and stimulating a greater interest in their work. This is largely because of the fact that they know that customers are being consulted as to their general satisfaction after the work is completed.

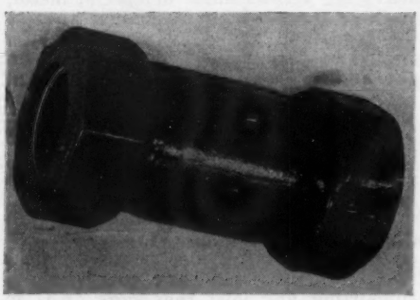
The net result of the audit may be summed up in the statement that we learn intimately just what the customer thinks. About 30,000 customers are contacted over the system of the company annually.

■ ■

S. R. Dresser Announces New Super Service Fittings

S. R. Dresser Manufacturing Co., Bradford, Pa., announces a new line of Super Service Fittings.

Outstanding features, according to the manufacturer's announcement, are: extra-heavy construction; use of wedge-shaped gaskets similar to those employed in Dresser Bolted Couplings,



Style 38; reserve sealing power for making tight joints on undersize or corroded pipe; easy assembly on pipe already deflected; "stab" fit that makes disassembly prior to installation unnecessary.

The basic principle of the new fittings is like that of Dresser's Bolted Couplings, Style 38, except that threaded end-nuts, screwing up on a threaded body, are used instead of bolts to compress the resilient gaskets tightly around the pipe, effectively sealing the joint.

Flexibility of the coupling, according to the company announcement has been proved in the laboratory, where 694,583 continuous pipe deflections were made at a pressure of 125 lbs. per sq. in., through an arc of 4°, without pressure drop.

Super Service Fittings are manufactured in a complete line of Regular and Long Couplings, 45° and 90° Regular Ells, Plain-end and Threaded-end 90° Street Ells, and Street Tees; sizes: ¾ in. I.D., to 2-in. I.D. inclusive.

■ ■

Kansas Co. To Improve Gas Service In Emporia

The Kansas Electric Power Co., Lawrence, Kan., is planning an expenditure of approximately $6000 for gas service improvements in three sections of Emporia, Kan. According to J. P. Nelson, gas department superintendent, about 3150 ft. of small pipe will be replaced by larger pipe, including 800 ft. of 6-in. and 1350 ft. of 4-in. pipe.

NATURAL GAS

. . the Fuel of Certified Performance

In response to the varied needs of our modern civilization, natural gas finds an ever widening sphere of usefulness. Readily available — to *the home* for heating, cooking and refrigeration; to *industry* for manufacturing, refining, conditioning and converting — natural gas today has proved itself a highly dependable, economical fuel. Annual consumption of some two and one-half trillion cubic feet provides notable evidence of its versatility and value.

COLUMBIA SYSTEM

COLUMBIA GAS & ELECTRIC CORPORATION

U. S. SUPER de LAVAUD CAST IRON PIPE

"Cast without chill in a metal mold"

U. S. PIPE AND FOUNDRY COMPANY
Burlington, N. J.

Investigate New Developments

Through the cycles of the seasons, year after year, this pipe line ocean terminal like thousands of miles of buried pipe line, is impregnable to corrosion because of NO-OX-ID and NO-OX-ID-IZED Wrapper.

Investigate the new developments by Dearborn in Laminated Dielectric Wrappers for your pipe, and machine methods of application both stationary and in the field.

Inquiries are invited.

Dearborn Chemical Company

Los Angeles: 807 Mateo Street, Phone TRinity 3385
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***Profitable* DITCHING**

With Barber-Greenes

There are Four Barber-Greene Ditchers—

The Standard
The Pipeline Special
The Utility Special
The Service Special

You can have the many advantages of the exclusive B-G Vertical Boom in a machine designed for your peculiar needs. Ask for complete information, there is no obligation.

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EXCLUSIVE design of Mueller Gas Era Furnace gives longest life—lowest operating cost.

L. J. MUELLER
FURNACE COMPANY
MILWAUKEE

GAS—810 South Spring Street; Los Angeles, California

Yes! SEND ME GAS *for* ☐ 1 Year at $1.00, ☐ 3 Years at $2.00

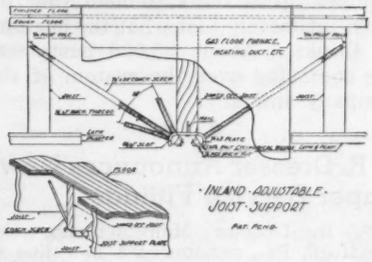
Other than United States, $2.00 per year

Name..... Position.....
Company.....
Address.....
City..... State.....

☐ Check enclosed ☐ Send bill

New Method Is Developed for Installing Floor Furnaces

A new device for supporting joists which must be sawed to permit installation of heating or air-conditioning equipment, has been announced by Inland Mfg. Co., Chicago, Ill. Known as the Inland Adjustable Joist Support, this



patented item is said to provide full support for joists, to be quickly and easily installed. Only a three-inch square of plaster need be removed for installation in a plastered ceiling.

The new joist support consists of two heavy lag screws made of special metal, machine threaded for hexagonal nuts at the head, and joined by a metal plate, slotted to permit the screws to turn to any angle. One nail fastens this metal plate to the joist which is to be supported. Pilot holes are drilled in adjoining joists, with a wood drill. The lag screws are turned into these holes, washers and nuts are applied, and the joist is fully supported.

It is claimed that this device will support a dead weight of over a ton on a joist. It can also be used where two or more joists are cut, and for supporting any joist that sags or is in a weakened condition.

A folder describing this new device is available on request.

■ ■

Gravel Pit Pumps Operated By Natural Gas Engines

The Hutchinson Sand and Gravel Co., Kan., recently installed an 80 hp. natural gas unit for pumping sand from gravel pits. The new unit, which replaces an 80 hp. electric motor, will bring an estimated annual increase in consumption of 2,000,000 cu. ft. The gravel company is being served by the Gas Service Co., Hutchinson, Kan.

■ ■

Fulton is Newkirk Manager

D. J. Fulton, field man in Osage county for the past nine months for the Northern Oklahoma Gas Co., Ponca City, Okla., has been transferred to Newkirk, Okla., to act as local manager of the company's Newkirk office. He succeeds Joe Boyd, who died June 20, after 15 years service with the company at Newkirk.

■ ■

Ohio Resort is Served By Natural Gas

More than 200 cottages in Lakeside, Ohio, will be served natural gas by midsummer, according to recent reports. This marks the first time that gas service has been available on a large scale in Lakeside. Plants have been installed for generating reconverted natural gas in 15 blocks.

Federal Power Commission Sets in Motion Natural Gas Industry Regulation

THE Federal Power Commission, on July 7, announced a series of orders under the new regulatory Natural Gas Act, approved June 21, 1938. Three sweeping orders, adopted by the commission and directly affecting the natural gas industry include: Order No. 51, instituting an investigation of natural gas companies and directing the filing of reports; Order No. 52, promulgating and prescribing provisional rules of practice and regulations under the Natural Gas Act, effective July 11, 1938; and Order No. 53, directing the filing by natural gas companies of schedules of rates and charges, contracts and agreements for the transportation and sale of natural gas now under the commission's jurisdiction.

Order No. 52, covering provisional rules and regulations, is composed of six parts. In Part 1, entitled "Administration," are set forth rules and regulations relating to public sessions and hearings, petitions, complaints, answers, protests, amendments to pleadings, etc. Part 2 contains provisions relating to applications for approval of the abandonment of facilities or service by a natural gas company, and rules relating to applications for a certificate of convenience or necessity.

In Part 3 are set forth rules for applications seeking authorization to export or import natural gas. The filing and cancellation of rate schedules are covered in Part 4. Part 5 relates to cooperation between the Federal Power Commission and state commissions, while Part 6 deals with rules for the adjustment of accounts and reports of natural gas companies.

In Order No. 53 the Commission set dates by which companies in three separate groups of states must file schedules covering deliveries within these states. Dates set were as follows: August 22, 1938 for western and northwestern states; August 29, 1938 for midwestern and central southern states; and September 6, 1938 for eastern, northeastern, and southeastern states.

■ ■

Columbus, Miss., Gas Plant of Peoples Water & Gas Has 80th Anniversary

The year 1938 marks the 80th anniversary of the Columbus, Miss., gas plant of the Peoples Water and Gas Co., Meridian, Miss., E. Roy Taylor, company manager, has announced.

Built in 1858, the Columbus plant was preceded in its territory by two private gas works which utilized pine oil. One of these early plants, which was erected in the 1850's by A. Simpson, a furnishing merchant of Columbus, for lighting his residence and store, is no longer in evidence. The other private plant may still be seen at "Waverly" plantation, 10 miles from Columbus. "Waverly" was built in 1850 by George H. Young. The site of the gas works is located 200 yds. from the house where only the outline of the old retort is now visible, but the holder well, 12 ft. in diameter and eight ft. deep, plaster over brick, is still sound.

The "Waverly" mansion was entirely gas-lighted. Lighting fixtures included a great chandelier carrying five lights, four four-burner chandeliers, and on the second floor two bracket lights for each dressing table in each of the four bed rooms.

■ ■

Peoples Gas Light and Coke Co. Holds 16 Cooking Schools in Chicago Area

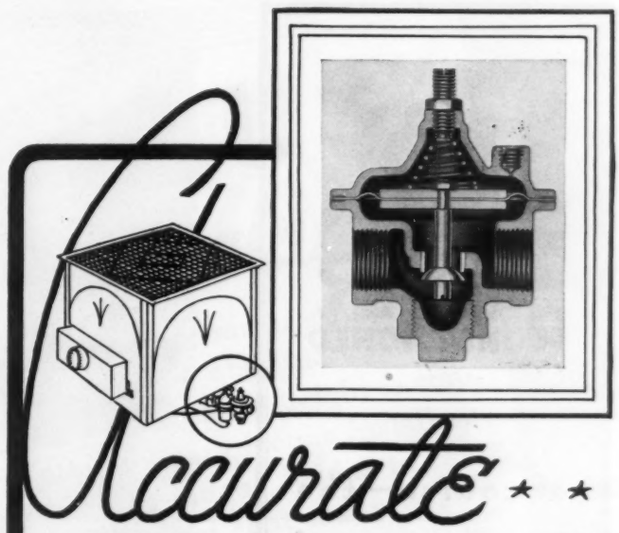
The Peoples Gas Light and Coke Co., Chicago, has, during the past year, entertained more than 100,000 Chicago women with 16 cooking schools in neighborhood theatres with seating capacities ranging up to 3500. H. D. Valentine, of the company's sales promotion department, acts as master of ceremonies for the cooking shows, which are standard with the cast of principals worked out in advance.

Martha Holmes, Peoples Gas home service director, opens each show, introducing the first demonstrator and briefly explaining the purpose of the cooking school. Prizes are presented at each show to holders of winning tickets. The two grand prizes include a modern gas range and a gas refrigerator.

■ ■

Blind English Cook Uses Gas Range

In Brighton, England, a blind man using a modern gas range, does all the cooking for a large family. The range is equipped with a special thermostat that has Braille letters and figures. This device and other automatic controls enable him to carry on his duties.



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GAS CONTROL FOR FLOOR FURNACES!

● Reynolds Low Pressure Regulators guarantee steady, constant, unvarying pressure, even though the volume varies and the line pressure fluctuates. These Regulators are precision built and delicately balanced for accurate gas control on low pressure. The many thousands in operation after years of service is the final proof that REYNOLDS Low Pressure Regulators are reliable, economical and safe. Our Engineering Department is at your service.

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- High Pressure Service House Regulators
  Straight Lever Type—Models 0-10-20 Series
  Toggle Lever Type—Model 30 Series
- Low Pressure Service or Appliance Regulators
- District Station Regulators
  Single or Double Valve, Auxiliary Bowl and Automatic Leading Device Optional
- High Pressure Line Regulators
  Pilot-Loaded, Pilot Controlled
- Toggle Type Regulators
  Single Valve, Double Valve, Triple Outlet
- Seals
  Dead Weight or Mercury
- Relief Valves
  High or Low Pressure
- Back Pressure Valves
- Automatic Quick Closing Anti-Vacuum Valves
- Automatic Shut-Off Valves
- Lever Operated Valves
- Louver Operated Device
- Atmospheric Regulators
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Wm. A. Ehlers, 49 S. Clinton St., E. Orange, N. J.

BRANCH OFFICES

Dwight Building, Kansas City, Mo.

Second Unit, Santa Fe Bldg., Dallas, Texas.

REYNOLDS GAS REGULATOR CO.

ANDERSON, INDIANA, U. S. A.

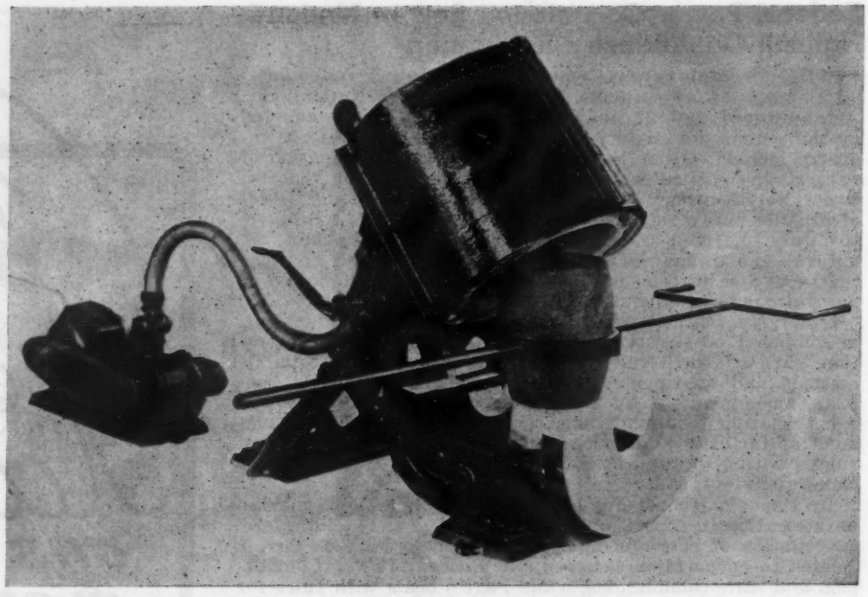
GAS CONTROL SINCE 1892

AIR CONDITIONED

of course—the largest area of modern hotel air conditioning is found in the world's largest hotel, where all the lobbies, dining rooms, meeting rooms, and a substantial number of guest rooms are air cooled—delightfully

STEVENS HOTEL CHICAGO

On Michigan Avenue
Overlooking Chicago's natural air-conditioner—Lake Michigan



Furnace tilted back and two halves of hearth tilted out of way so that shank can be raised to lift crucible from pedestal. Quicker heat and less fuel are points in favor of this gas-fired melting furnace.

New Gas-fired Crucible Furnace Eliminates Use Of Tongs

WITH the recent design of a new gas-fired crucible type brass melting furnace, the laborious process of taking the hot crucible of molten metal from the furnace is eliminated, which is a considerable factor in getting the metal to the pouring flow more quickly. The new furnace also materially reduces the labor involved in pouring, as well as minimizes the risk involved in dropping a full crucible.

The removal of the crucible from the furnace has always presented difficulties of a more or less critical nature. A furnace obviating these difficulties has been developed and is being built by the Osborn Bronze Works, Clarksburg, W. Va., makers of bronze bushings and bearings to fill a long felt need in their own foundry.

This novel gas furnace is an inversion of the old type furnace with the top forming a sort of hearth. The furnace is held in a frame supported from the base and is lifted up and tipped back from the hot crucible by a hand lever. The circular base (once top) fits around the pedestal on which the crucible stands. This base is split and the two halves turn outward and vertically at the same time the furnace is lifted. This allows free movement of the shank which is laid in place around the pedestal before the crucible is put on.

To remove the crucible two motions are necessary: first, a pull of the lever removes the furnace; second, a lift of the shank, and the crucible is on its way to the pouring floor. The present process includes the following: remove top; pull hoist into position; lower tongs, adjust tongs about crucible; raise crucible out of furnace; lift shank about crucible; and finally disengage tongs and pull out of way.

With the furnace in the up-side-down position less heat will escape from it during charging and removal of crucibles. Therefore melting periods should be less than with the old way, and there will be a saving in the amount of gas fuel consumed, but tests alone will reveal how much. The hazard incident to the use of tongs which increases with the wearing of the crucible is eliminated.

The makers claim that with a gas furnace large enough for Nos. 60 and 70 crucibles, the average melting time on a charge of high bronze is only 40 minutes with a maximum gas consumption of 600 cu. ft. natural gas per hour.

■ ■

Home Service Agent Chosen

Frank Phillips, Athens district manager, Ohio Fuel Gas Co., has announced the appointment of Dorothy Duncan as home service representative for the company's Athens district.

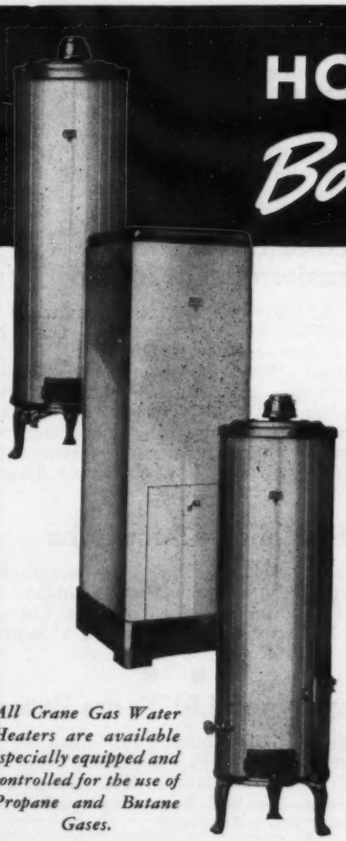
It's "C.P. PLUS" with an EMCO "Rangelator"

A SMALL COMPACT LOW-PRESSURE REGULATOR THAT ACCURATELY HOLDS GAS RANGE BURNER PRESSURE CONSTANT

The best way to assure consumer satisfaction of the range you sell is to be absolutely certain that the burner pressure and flame height is constant. To obtain these necessary factors install an EMCO Rangelator on every range. Added to consumer satisfaction you'll find that many costly service calls, due to pressure fluctuations, will be eliminated. Bulletin 1032 describes the EMCO Rangelator and will be sent upon request.

PITTSBURGH EQUITABLE METER CO.
PITTSBURGH, PA.

HOW CRANE CO-OPERATION *Boosts* WATER HEATER SALES



All Crane Gas Water Heaters are available especially equipped and controlled for the use of Propane and Butane Gases.

IT'S a lot easier to boost water heater sales with a product of prestige . . . a product that is backed by aggressive, consistent, and far-reaching promotion. Complete stocks in strategic locations over the country and their immediate availability through master plumbers in every community are all-important advantages, too.

Crane Co. offers these vital features to aid the success of your load-building drives with a line of gas water heaters that is unusually complete. Attractively designed models in every price range . . . in every capacity . . . match the requirements of every domestic and commercial installation. And all are proved under every water and gas condition. Backed by the reputation of the name Crane, these water heaters enjoy broad public acceptance—from coast to coast—a strong confidence that the Crane standard of quality has earned for all Crane products.

If you wish to make greater strides in your load-building programs, you owe it to yourself to learn how this can be accomplished with Crane water heaters . . . how Crane prestige . . . Crane co-operation . . . and the distinct advantages of Crane distribution can readily be put to work for you. Address the Crane branch nearest you.

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VALVES · FITTINGS
PIPE · PLUMBING
HEATING · PUMPS

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NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS

Chicago Co. Conducts Three Gas Demonstration Homes

IN ORDER to demonstrate the superiority of gas for all "four" jobs in the home, the Peoples Gas Light and Coke Co., Chicago, Ill., has opened to the public three All Gas Demonstration Homes.

Built at a time when interest in new homes was prevalent, each house was designed to appeal to a certain group and to be commensurate in design, cost and appearance to the location selected.

In planning the demonstration homes, the chief aim was to build houses designed for actual living and not as mere showcases for appliances and equipment. For that reason, the company decided not to build the unusual home or the "home of tomorrow" but rather a desirable practical home in the best architectural tradition of the Colonial era since the American type is at the present time preferred. With this idea in mind, the company selected three architects of established reputation to design the jobs and contracts were let in the same way an individual builder would proceed. All three homes are completely furnished in scale with the houses. Although typical of the Colonial period, each home has been modified in design to incorporate all features demanded in modern living.

Visitors, who often number 2000 on Sunday afternoons, are welcomed to each demonstration home by a salesman stationed near the entrance hall. Home service girls act as hostesses in the kitchens, and another salesman is located in the basement to explain the features of the heating system and laundry appliances. It is interesting to note that visitors are drawn more to the kitchen and basement where efficiency and eye-appeal are combined, showing modern gas appliances as objects of beauty as well as convenience.

When the exhibit period is ended, the Peoples Gas Light and Coke Co. plans to sell the demonstration homes. For this reason no garages were built as the company could not know what type of garage the future owner would want. However, provision was made in the architect's plans indicating the logical garage location. The future value of the home sites was also taken into consideration in order that when the homes were built, they would be suitable for permanent residences.

■ ■

S.C.M.A. July Meeting Offers Discussion of Integrator

THE "McGaughy Integrator," a paper presented by J. L. Cottrell, manager, integrator division, Pittsburgh Equitable Meter Co., featured the technical portion of the program presented before the Southern California Meter Association at the July meeting in Huntington Park, Calif. Harry A. Faull, Southern Counties Gas Co. and newly elected president of the Association, presided.

Entertainment feature of the evening was a sound motion picture, "South of Zamboanga," which was offered by the Dollar Steamship Co. The film depicted native life in the Philippine Islands as well as showing scenic points of interest on the Islands.

Musical entertainment during the evening was furnished through the courtesy of the Pittsburgh Equitable Meter Co.

■ ■

Worthington Offers New Booklet on Engines

The Worthington Pump and Machinery Corp., Harrison, N. J., has recently published a 36-page booklet, illustrating various installations of Diesel and gas engines. The new publication pictures the extensive application of Diesel and gas engines in every field where power is an essential factor.

The bulletin contains nearly 100 illustrations of Worthington engines in service. These engines range in size from 30 to 1800 hp. and are designed to operate on natural, manufactured, refinery, sewage-sludge, producer, or any mixture of gases.

■ ■

Maxine Robertson Is Transferred To Toledo

I. A. Ludwig, district manager of the Ohio Fuel and Northwestern Ohio Natural Gas companies, Toledo, has announced the appointment of Maxine Robertson as company home service representative for Toledo and the surrounding territory. Miss Robertson was formerly home service representative for the company in the Athens district.

■ ■

R. H. McElroy Succumbs

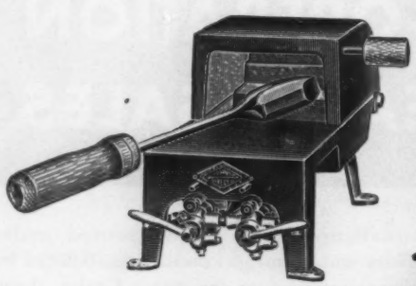
Robert H. McElroy, vice-president in charge of transportation, Standard Oil Co. of Indiana, died June 26, in Chicago. Mr. McElroy was appointed a vice-president in 1927.

■ ■

Employee of 61 Years Passes

Walter O. Smith, 74, head of the claims department, Louisville Gas and Electric Co., Louisville, Ky., passed away in June. He had been employed by the company for 61 years.

JOHNSON NO. 101 Bench Furnace Saves You Money and Does Many Jobs Well



You get intense heat without the expense of blower or forced air-blast, because of JOHNSON'S famous patented Direct Jet Bunsen Burner. The No. 101 is designed for heating soldering coppers up to 12 pounds per pair, and efficient heat-treating of carbon steel tools and parts. The curved hood forces a hot return blast over the work. Two burners, each with shut-off valve and pilot. Many other exclusive features give you trouble-free service at low cost. Write for free catalog today.

JOHNSON GAS APPLIANCE CO. Cedar Rapids IOWA

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GREENLEE

HYDRAULIC PIPE PUSHER SAVES TIME AND MONEY

It makes extensive trenching, back-filling, etc., unnecessary and saves tearing up lawns and pavements.

Under usual conditions, one man can operate the levers with ease.

It has several speeds to suit varying soil conditions.

Depending on the length of base used, it will push from 4 to 7 feet with but one setting of the pipe clamp.

It is easy to handle and simple to set up and operate.

The Greenlee Pusher consists of a hydraulic unit which operates on a notched steel base. Pumping the levers sets up pressure within two oil cylinders, causing the body of the pusher to move forward against the pipe clamp. Depressing the levers releases the pressure, permitting springs within the unit to move the pistons forward to a new notch.

It will pay you to investigate this money-saving method of pushing pipe. Write for full details now.

GREENLEE TOOL CO., 1700 Columbia Ave., ROCKFORD, ILLINOIS

Protects gas users —

"CALODORANT" gives a swift warning against leak danger

CALODORANT gas odorizing agent has a distinctive and penetrating odor that is generally associated with manufactured gas. For over seven years leading gas companies have found it to be a vigilant detector of dangerous and costly leaks. Immediately upon the addition of CALODORANT to gas, it gives warning of leaks in distributing systems and household appliances—a warning that may prevent loss of life and property. CALODORANT will remain completely vaporized during long periods of transmission and the odorizing power remains unimpaired. It adds no odor to burning gas. It is non-corrosive — non-injurious to equipment or users.

CALODORANT

Reg. U. S. Pat. Off.

GAS ODORIZING AGENT

Available in tank cars and iron barrels

Address Inquiries to

Standard Oil Company of California

225 Bush Street, San Francisco, Calif. **30 Rockefeller Plaza, New York, N. Y.**

Logan W. Cary, Gas and Oil Executive, Dies July 7

LOGAN W. CARY, 54-year-old gas utility and oil company executive, died at his home in Oklahoma City, Okla., July 7, following a week's illness from a heart ailment.

Mr. Cary, at the time of his death, was president of four oil and gas firms: The Consolidated Gas Utilities Corp., The Natural Gas Development Co., The Wicliffe Oil Co. and The Carson Petroleum Co.

In 1919 Mr. Cary came to Oklahoma City, from Louisville, Ky., to become connected with the gas department of the Oklahoma Gas and Electric Co. He resigned as manager of that department in 1928 and organized the Consolidated Gas Utilities Co., which later was reorganized under the name of the Consolidated Gas Utilities Corp. with headquarters in Oklahoma City. The company is engaged in the distribution and transmission of natural gas in about 25 Oklahoma cities and towns.

■ ■

Louisiana Conservation Review is Available

The Louisiana Department of Conservation, New Orleans, has published the Spring issue of their quarterly *Conservation Review*. The current issue includes an article by W. O. Chisholm, engineer, Louisiana Department of Conservation, dealing with the history of natural gas in Louisiana as well as the known existing gas reserves in that state.

■ ■

Quigley Co. Issues New Bulletin on Insulag

Quigley Co., Inc., New York City, has just issued an eight-page illustrated bulletin on Insulag, a non-shrinking refractory lagging for interface temperatures up to 2200° F., or directly exposed to 2000° F., which can be applied on hot surfaces. According to the manufacturers, one in. of Insulag equals 9 in. of fire brick in insulating value and has 1/60 heat storage capacity of fire brick for same heat flow.

The bulletin includes full page charts, to determine thickness of Insulag required for hot face temperatures and to ascertain efficiency of thicknesses of Insulag, for the engineer's convenience.

Portion of the model kitchen situated in the office of a Chicago real estate firm, owned by Arthur J. O'Connor.

Gas Kitchen Helps to Sell Chicago Real Estate

In the front office of his Chicago real estate firm, Arthur J. O'Connor has installed a model kitchen, completely gas-equipped. The kitchen was designed by the Home Planning Bureau of the Peoples Gas Light and Coke Co., and has attracted the attention of many passers-by and prospective home owners.

The display kitchen reveals the type of gas appliances that will be installed in the modern, gas heated homes, soon to be built in the Beverly Gardens Area, a newly developed Chicago district. The new homes will be equipped with a gas-fired broiler, an Electrolux, a gas range, and a gas water heater.

■ ■

Mueller Furnace Co. Opens New Minneapolis Branch

L. J. Mueller Furnace Co., Milwaukee, Wis., has recently established a branch office and display room at 1618 Harmon Place, Minneapolis, Minn. With the opening of the branch the company resumed its direct sales contact with the heating trade in the Twin Cities and Minneapolis. T. W. Russell, has been appointed branch manager.

■ ■

New Gas Field Opens Near Wetumka, Oklahoma

A new "grass roots" gas field has recently opened up near Wetumka, Okla., with the completion of three gas wells, each producing 2,500,000 cu. ft. of gas per day from depths ranging from 492 to 516 ft. Ben Harrison, of Wetumka, brought in a well in NEC NW of Section 21 at 500 ft. and expects to drill more wells in the area.

■ ■

Kain of Philadelphia Dies

Robert E. Kain, manager of the northwest district of the Philadelphia Electric Co. and member of the American and Pennsylvania Gas Associations, died, June 12, at his home in Ardmore, Pa.

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Petroleum and Gas Engineer
Design—Construction—Reports
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50 Broadway, New York City
1936-42 5th Avenue, Pittsburgh, Pa.

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using gas as the fuel are the ideal fireplace heaters.
'Sweeten' your line and 'pep' up your salesmen with these Aristocrats of the Fireplace.
Your customers want them.
You can get them.
Current catalog and price list on request.
Homestead Heater Co.
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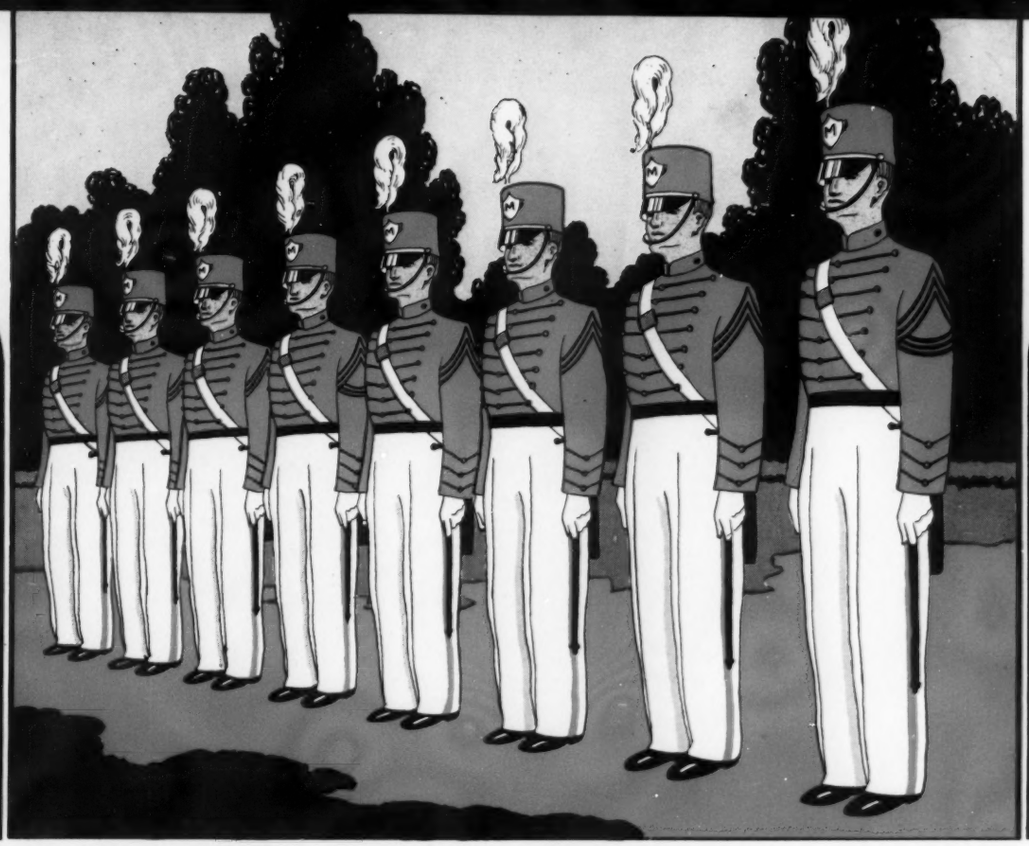
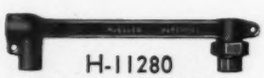
HEATS • VENTILATES • FILTERS • CIRCULATES • HUMIDIFIES
Race Gas FURNACES AIR CONDITIONERS
SIZES: 45,000 to 630,000 B.t.u. Input
Enter the air conditioning race with RACE. Increased customer good-will, minimum service requirements and profits the year round will make YOU —THE WINNER!
DISTRIBUTORS—DEALERS. Wire or Write for Territories, Discounts, Details.
ROYAL AIR CONDITIONING EQUIPMENT CO.
1900 N. ALAMEDA BLVD. COMPTON, CALIFORNIA

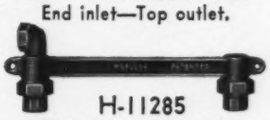


ALIGNMENT

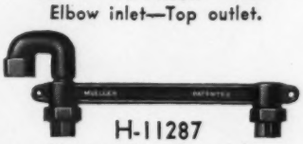
1. Threads protected from rust and side strain.
2. Pipes braced and aligned.
3. Bevel centers and aligns connector.
4. Only two connections — no union joints or gaskets.
5. Accurate threading and dimensions.



H-11280
End inlet—Top outlet.

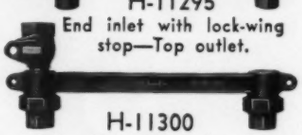


H-11285
Elbow inlet—Top outlet.



H-11287
U-type inlet—Top outlet.

H-11295
End inlet with lock-wing stop—Top outlet.



H-11300
Top inlet with lock-wing stop—Top outlet.

MUELLER Rigid Meter Bars assure a neat permanent alignment of meters because of their "bevel connector." A long close fitting socket is provided in the bar which forces the supply and the outlet pipes into axial alignment for attachment to the bevel connectors. This also braces the weakest part of the pipe and protects the threads from rust. A strong malleable nut pulls the bevel face of the connector in solid contact with a similar bevel face on the bar which completes the alignment and permanently locates the connectors and swivels. The connection is rigid and protects the meter from any strains due to settling or shifting pipes.

MUELLER COMPANY • DECATUR, ILLINOIS

Mueller Meter Swivels are made in both malleable iron and brass. The offsets are evenly curved, assuring full pipe opening from end to end. Shoulders and threaded ends are in accurate alignment.

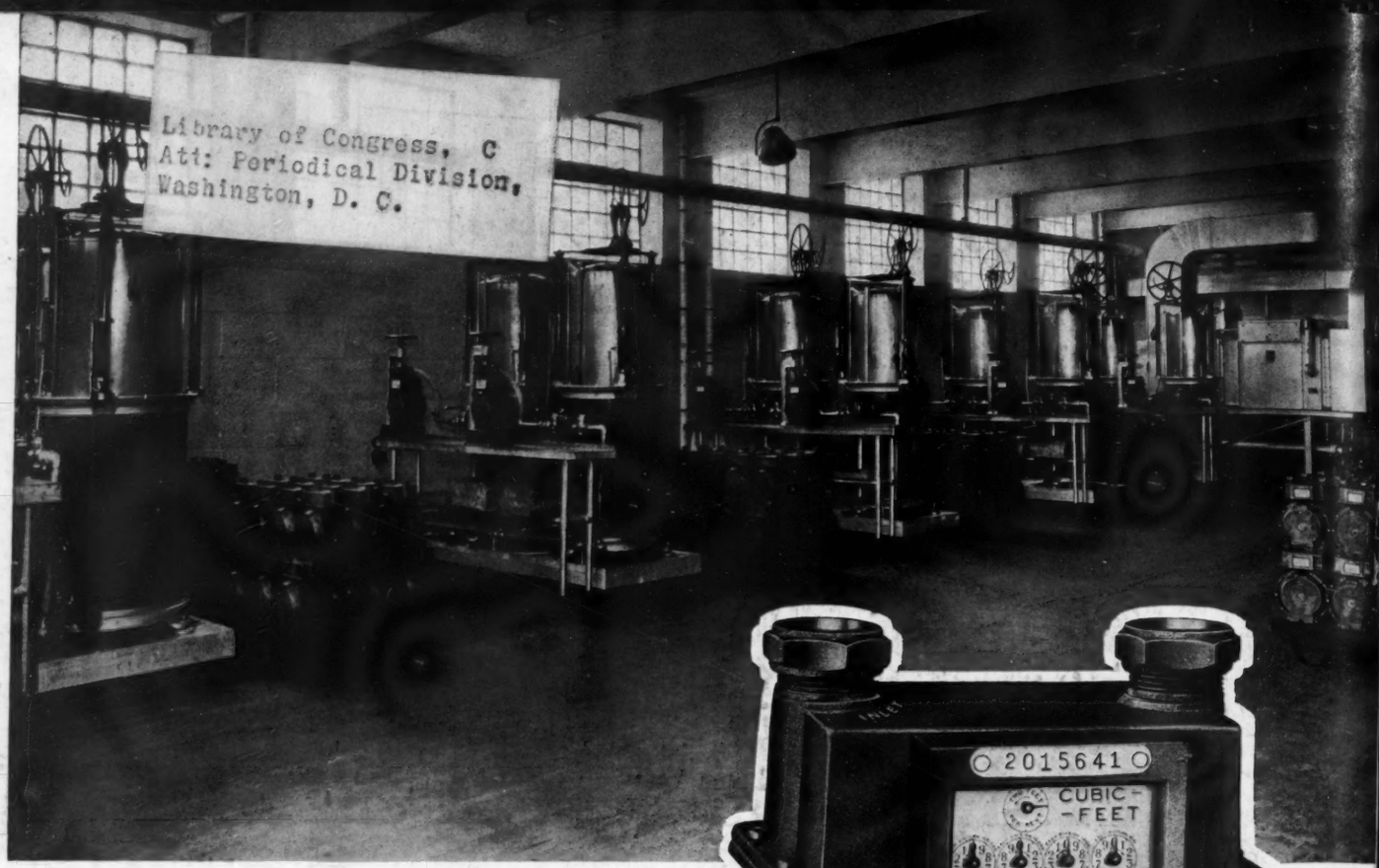
H-11160 H-11162 H-11164

MUELLER

GAS SERVICE EQUIPMENT

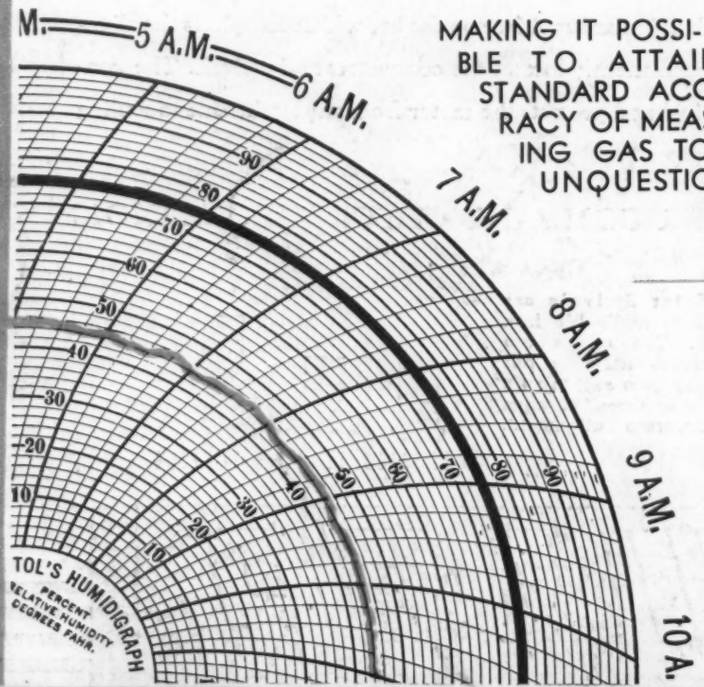
Modern Proving of Gas Meters

Library of Congress, C
Att: Periodical Division,
Washington, D. C.



ALL SPRAGUE METERS ARE TESTED FOR ACCURACY IN A MODERN AIR AND TEMPERATURE CONTROLLED PROVING ROOM

A STEP FORWARD IN ELIMINATING HAZARDS OF CHANCE AND OBTAINING THE ULTIMATE IN UNIFORMITY OF PERFORMANCE



MAKING IT POSSIBLE TO ATTAIN STANDARD ACCURACY OF MEASURING GAS TO AN UNQUESTIONABLE DEGREE.

MODERN METERS, BUILT AND PROVED THE MODERN WAY, MAKE FOR DEPENDABILITY, ACCURACY, LONGER LIFE, AND LOWER OPERATING COSTS.

HAVE YOU OUR CATALOGS NO. 16A, 18, 19, AND 20?

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